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Cover story: CD-R Guide

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Customer Feature List	1000 x 768 LCDs	1000 x 768 LCDs	1000 x 768 LCDs	1000 x 768 LCDs	1000 x 768 LCDs	1000 x 768 LCDs	1000 x 768 LCDs	1000 x 768 LCDs

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Customer Feature List	1280 x 1024 LCDs	1280 x 1024 LCDs	1280 x 1024 LCDs	1280 x 1024 LCDs	1280 x 1024 LCDs	1280 x 1024 LCDs	1280 x 1024 LCDs	1280 x 1024 LCDs
Customer Feature List	1280 x 1024 LCDs	1280 x 1024 LCDs	1280 x 1024 LCDs	1280 x 1024 LCDs	1280 x 1024 LCDs	1280 x 1024 LCDs	1280 x 1024 LCDs	1280 x 1024 LCDs

15" LCDs (1280 x 1024 native resolution)

Customer Feature List	1280 x 1024 LCDs	1280 x 1024 LCDs	1280 x 1024 LCDs	1280 x 1024 LCDs	1280 x 1024 LCDs	1280 x 1024 LCDs	1280 x 1024 LCDs	1280 x 1024 LCDs
Customer Feature List	1280 x 1024 LCDs	1280 x 1024 LCDs	1280 x 1024 LCDs	1280 x 1024 LCDs	1280 x 1024 LCDs	1280 x 1024 LCDs	1280 x 1024 LCDs	1280 x 1024 LCDs

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Monitor review a little flat



Your review of LCD 17-inch monitors in the August issue did not seriously evaluate the quality of text display on LCD monitors.

I know that I am not the only person whose computer use is almost entirely

word processing who has found the look of text on LCD monitors surprisingly disappointing—no sharp/angry, or “dipy” —hairs not looking smooth and round.

I know that there are software programs that address the problem, but on net sure how much difference they make. It doesn't have appreciated more attention to real-world work (word processing for most of

us) and less exclusive attention to games and graphics.

As a Mac user, I am especially interested in the Apple Studio Display which looks great for graphics but, so far, questionable for text.

Nancy Patrone

Buying PC components overseas

I read about your trip to Japan (See Letter from the editor, August issue). If I wanted to buy an ATI Radeon 9700 would it be less expensive there?

Thanks, and what is the exchange rate? Phrakayone Family

Good Japanese replies. Buying overseas may not save you any money. My experience with pricing was that new products tended to be higher in Tokyo but products on the market for a while were often substantially cheaper

For example, a just-released Canon EOS60 digital SLR camera was 249,000 yen, which is equal to approx \$1,739, whereas it is selling in Canada for \$1,185. However a one-year-old Canon G2 digital camera was \$5,600 yen (equivalent to \$1,125), compared to \$1,299 in retail stores here.

Back in February, the ATI AS-i-Bonder 8500 was selling for 4,500 yen, or about \$354, in Japan, while Canadian retailers advertising in the February issue of The Computer Paper were selling it for \$669.

Since the Radeon 9700 is a brand new technology, I would be surprised if you would find it much cheaper there than here, and possibly it would be more expensive.

As exchange. According to my Visa bill, the effective exchange is .0115—in other words, 1,000 yen equals about \$12.50 Canadian.

The CD tariff saga continues

An anonymous reader made the point in the July issue (see Readers' Letters) that the CD royalty tariff legitimizes CD copying, because it covers the lost CD sale profits claimed by CD burning. I won't go into it here, but even the claim that profits are lost is a dubious one.

Anyway, now that I've been accused and proven guilty of copyright infringement, simply by purchasing blank CDs, I too will feel free to copy all the music I want. As long as I copy onto purchased blank CDs I'm covered. According to the Nelson ratings, one "Nelson family" equals 5,000 TV viewing families. I wonder how many copyright infringements are represented by this letter and the one before.

Blayk Gough

Five years ago

In the September 1997 issue of The Computer Paper, our cover headline read "Learning in the World Wide Classroom," underscoring the growing importance of the Internet in education.

But IUP had already been exploring this new medium for some time, and the long-running "Weaving your own Web site" monthly series was already up to Part 24.

The first Lab report looked at entry-level PCs suitable for students—typically 166 MHz Pentium systems with 16 MB of RAM and 2 GB hard drives, selling for \$1,500 to \$2,000.

Among our product reviews were a comparison of Netpage Communicator 4.00 versus Microsoft Internet Explorer 4.0 and hands-on looks at NetPerfect Suite 8.0 and version 5 of Power's sleek handheld computer.

Digital cameras were just starting their long trek to commercial viability, with the Nikon Coolpix 300 and Olympus D-300L showing up in advertisements.

Apple's brief fling with third-party Mac manufacturing also made an appearance—remember SuperMac, Ultra, and StudioMac brands?

And speaking of Apple, we also carried a small news item of Apple's "deal with the devil," which repaid on the announcement Steve Jobs made at Macworld of Microsoft investing US\$150 million in Apple, and getting five percent of Apple, plus cross-licensing rights to Apple patents until 2003.



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WHAT'S NEW

By Tom Igoe



results directly into Microsoft Word, Excel, Apple Works, or Simple Text, according to ABBYY.

The company says the software supports all core Apple OS technologies, including QuickTime, AppleScript, copy-and-drop, and AppleScript (you can have the computer mail scanned text aloud—in English and Spanish only, for now). FireReader “understands” 137 written languages, and has a built-in spell check for 23.

Users can also select more than one language for a document to improve recognition accuracy.

ABBYY says its technology makes allowances for a range of print defects and low-quality documents (including distorted printouts, low-contrast photocopies, and faxes) while still providing a high degree of recognition accuracy. A scan assistant guides users through docu-

Macros-based ABBYY has released a new version of its optical character recognition (OCR) scanning software for Mac users. **FireReader 5 Pro for Mac** transforms text scanned documents into plain text, RTF, PDF, HTML, and Unicode text, or even transfer

ment scanning and supports batch processing.

FireReader works with all TWAIN-compliant scanners, ScanFast drivers, and PowerPC, Adobe Photoshop, Desktop Publisher, according to ABBYY. It requires a system with a G3 or better processor running Mac OS 9.4 or higher (it runs in the Classic environment in OS X).

Both shrinkwrapped or download-only versions of FireReader 5 Pro for Mac can be purchased from the developer's Web site for US\$169. A free 30-day trial version is also available from the site.

Phenak Hearing Systems (www.phenak-usa.com), which manufactures a full line of “hearing systems” designed for the hearing-impaired (known to most of us as hearing aids), has added a tech twist to some of its devices.



The **WatchPilot** is a wristwatch that also acts as a remote control for Phenak's new Cluro hearing aid. This means hearing-aid wearers using this system no longer have to fumble around with the device in their ear when they want to make an adjustment. The watch pilot has four buttons: two control the volume, one controls wireless FM listening systems used in classrooms, and the fourth is for quick adjustment in various environments (near the telephone, noisy streets, etc.).

It communicates with the hearing aid using electromagnetic signals. The WatchPilot—which also tells time and is water-resistant to a depth of 30 m—comes in both men's and women's versions. It costs US\$500 to US\$600 and is an accessory to a hearing aid.

Gigaset (www.gigaset.com) has unveiled a line of small and home office networking devices that can connect in any room that has an electrical outlet, over standard wiring.

The **HomePlug USB Adapter** and **Ethernet Bridge** products allow users to create high-speed local area networks (LANs) using their existing residential powerlines.

Spotlight



Stylus Stylus Thin for PDA

Pen and pad are the core of Beibin has developed a new stylus for PDA.

The Stylus Thin for PDA is a new stylus for PDA. It has a thin body and a large tip. It is powered by a 3 VDC (three volt) battery. It is available for PDA.

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According to Gigaset, the HomePlug products offer data speeds of up to 14 Mbps. The USB adapter is plug and play.



and is compatible with Windows only. The Ethernet Bridge requires a 10/100 Mbps network adapter, and is compatible with Mac, Windows, and Unix. Each of the HomePlug devices has a suggested retail price of US\$89.

Continued on page 34

Spotlight



Sentrix Technologies Group, originator of the popular Turbo Mouse trackball for Macintosh computers, has introduced the **StudioMouse**, an optical mouse the company says is designed for high-end creative Macintosh users.

A key feature of the StudioMouse is the new scroll sensor, a multi-function, touch-sensitive strip that takes the place of a scroll wheel. According to Sentrix, the sensor makes it easier for users to move

backward and forward a project, scroll continuously to the start or finish of a document, or speed one line at a time—all with the touch of a finger and without moving the hand or wrist.

Sentrix says StudioMouse's high-speed optical scrolling provides precise accuracy. The device comes with MouseTools software, which lets users program the functions of the three buttons, mouse clicks and key strokes.

At press time, the StudioMouse was available only through Sentrix's U.S. Web site, for US\$55.95. It is covered by a five-year warranty.

Managing an IT career

Tech skills are no longer enough; you need to understand business processes, too

By Jeff Emsw

The last three years have been tumultuous times in the information technology (IT) job market in Canada. Since the dawn of the new millennium, the dotcom bubble inflated and then burst, the Millennium bug didn't bite, and general religious racism targeted the entire sector of the word world economy on Sept. 11. The IT slump and the telecom bust resulted in layoffs at Nortel, Galecia, MGI, and many other Canadian tech stars.

But how, amidst all this bad news, was the Canadian IT job market actually doing? And, in this era of tumultuous change, how can an IT professional take control of his or her career path? How can a newbie get that first IT job, and begin to craft a career that will be exciting, secure, and financially satisfying? This article will examine strategies for surviving and thriving in the industry as the new millennium continues to unfold.

IT as an engine of job creation

According to Canadian government statistics, there were more than 582,000 people employed in the information and communication technology (ICT) sector in 2003. That figure was projected to grow to about 630,000 by the end of 2005. In spite of dotcom layoffs and contractions in some telecom firms, the growth in corporate and governmental IT still seems to be keeping Canadian IT jobs growing steadily.

Between 1995 and 2004, employment in that sector grew at a rate of 6.5 percent annually, more than three times faster than the 2.1 percent employment growth in the Canadian economy as a whole. The fastest growing sector in ICT was in software and computer services, which was growing at a rate of 9.5 percent annually, nearly five times the average job growth rate. More than a quarter (66,000 of 253,000) of Canadians working in the software and computer services industry were self-employed.

According to representatives of Oracle and Microsoft, there are still significant

"IT is no longer just a part of a business, it increasingly is the business."



shortages of IT professionals in many categories, such as database programmers and server specialists.

"There's a shortage of qualified IT people in Canada," says Sandra Simpson, managing partner and chief executive of IT consulting firm Logical Process Corp. (www.logicalprocess.com). "I think there's a lot of opportunity for job seekers, but a lot of people don't have the skill sets employers are looking for."

In fact, a job, it helps a lot if you have the particular skill or experience that is in short supply. For example, according to a representative of the Ontario Ministry of Education, the industrial job specialty most in demand in North America is tool and die makers who are proficient with tool and the CAD/CAM (computer-aided design and manufacturing software) systems. To get this qualification requires rigorous computer training (in CAD/CAM software and C programming) while taking a two- or three-year apprenticeship in modern computer-aided tool and die making. A tough slog, but the upside is that the starting salary is \$40,000, and there are vacancies awaiting any qualified applicant.

Don't think jobs, jobs, jobs.

Think career, career, career.

According to Simpson, the best approach

to take is "to realize that IT is no longer just a part of a business, it increasingly is the business." She says the highest demand is for those IT professionals who can be the bridge between the IT department and a corporation's core business activities and partners.

"Certainly there is high demand for business relationship managers, who perform the role of advocates between the IT department and the company's business units," Simpson claims that the largest enterprises—banks, insurance companies and the federal government—have concluded that IT is not just a department, it's central to the success of all operations.

The person who combines tech savvy with business savvy is in high demand. "Someone who can work with IT people, who can work with geeks and alpha geeks, but understands the business world," can increasingly write their own ticket, Simpson says.

In terms of qualifications, such as a computer science degree or certification in a particular database or operating system, Simpson says, "Certs are wonderful, but they are not going to get you a career. They will get you a job. A career is upwardly mobile, developing you into management material." To have a career in IT today, Simpson says,

you have to learn about business, as well as technology.

For example, when Radio Shack Canada (www.radio shack.ca) decided to rebuild its Web site using the new Microsoft Commerce Server 2002 for its April, 2002 relaunch, the project was driven by a determination to have the company's Web presence be an inexpensive and integrated part of its enterprise-wide Microsoft Commerce Server 2002 system. According to Radio Shack Canada vice-president, Margo Weeks, IT and senior management worked closely together to ensure that business objectives remained the focus, and that the new Commerce Server 2002 technology was tailored to suit the company's needs.

IBM, for its part, is vigorously pushing its "e-business on demand" model of hosted or outsourced IT services. In the IBM model, enterprises are encouraged to contract out their IT requirements, to purchase remote services from IBM and its partners rather than maintain an in-house IT structure.

In these sorts of outsourcing models, the ability of IT professionals to be able to understand business needs is even more essential.

If there is any one thing that has changed... businesses will no longer tolerate the isolated "glass house" model of IT, where a mysterious programmer priesthood dictates what is or isn't good for the business.

Communication between the service provider and the corporate client has to be very clear and the service provider has to be proactive and focused on the customer's business strategy, rather than on the outsourcing service provider's technology.

Continued on page 32

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Finding work after being downsized

By Geoff Wheelwright

The technology industry is not dead. It may feel that way if you're looking for a tech-based job right now and you've been through a layoff, downsizing, or tech company implosion. In fact, you may feel like just signing up at the nearest McDonald's right now so you can at least get a paycheck you can count on.

But don't lose heart. There are still lots of tech-based companies that need skilled people with talent, ideas, and perseverance. You just need to connect with these companies—and know how to make that connection.

Taking inventory

Your search, however, doesn't begin in the "help wanted" section of the newspaper or even by calling and emailing all your contacts. Your search needs to start in the mirror, where you can take an inventory of what you have.

For job hunting—or career hunting, which is really what you are probably after at this point—is as much a sales process as anything else. And to be an effective salesperson, you need to understand the product or service you're selling. That product or service is, of course,

you.

It should be noted that unless you are applying for a job as a model, an in-store clothing dummy, or seeking a part in a movie, stage video, play, or TV show, you don't really have to worry about selling yourself as a product. You are more likely to be able to sell services. And that's really the place to set your inventory.

Don't think of the services that you can offer as merely the tasks you undertook in your previous job. That may provide you with a good starting point, but chances are that no single job will have ever given you the chance to show off everything you can do. So start by creating a list of your quantifiable skills and experiences, such as ability to program in XML, experience in SQL database creation, management and maintenance, project management, MSCE qualifications, and so on.

Then go on to think about what you really did in your last job and the skills that it helped you develop. These may be "soft skills" that didn't result in any formal qualifications that you could quantify, but all the same, they are now part of your range of your capabilities.

You know that you can, for example, build out a Windows XP-based corporate



Job-hunting is as much a sales process as anything else. And to be an effective salesperson, you need to understand the product you're selling. That product or service is, of course, you.

network, or design a catalogue system for a company library, or build an online commerce site—or whatever it is

These are all now part of what you can do and you should include them in your inventory.

The business of finding IT jobs: Know your potential employer

More than 80 percent of jobs are never listed in the usual public forums, such as help-wanted ads, online job sites, or employment agencies. They are filled by word of mouth, internal hiring, or networking through acquaintances and IT associations.

According to Sandra Simpson, managing partner and chief executive of IT consulting firm Logical Process Corp., there are several steps to increasing your likelihood of being seriously considered for an IT job:

- Have a good resume, which means you should state on the resume exactly what it is you want to do in IT.
- Investigate each job opening carefully, and learn about the company before applying. Tailor the resume to match your experience closely to the company's stated needs.
- State clearly "I seek a position doing

such and such," the more specific you are, the better chance you'll have of getting the job.

- Keep the resume short and on topic to the job you're applying for: two pages or less is best.
- Emphasize pertinent work experience, related education, and skill sets that match the employer's stated requirements.
- Do not send in a generic resume and cover letter that show no awareness of the company to which you're applying. You'll be ignored in favour of anyone else who shows enthusiasm and knowledge of the company, and who tailors their resume to the specifics of the job. A cover letter indicating specific knowledge of the company, the job, and expressing genuine enthusiasm and selling what you will bring to the

job will be much more effective than a form letter.

- Your goal should be to secure an interview first, then to determine if any positions offered are acceptable to you, and finally to secure employment.
- Your chance of success is reduced if what you present about yourself is not aligned with the position being offered.
- Do not span employers with resumes filled off by email without a lot of thought or care; they'll be discarded.
- If you are serious, do research on the company before contacting it. If you want an IT job as a major city like Toronto, go to the library and check the *En* & *Businessweek* directories. Find out how big the IT companies are, research their Web sites, learn about the company, and decide what value you can offer it as an employee in the position being

advertised.

- It is pretty obvious to a recruiter if you don't know about the company and the job being advertised. Just being loose to code is no longer enough; you must be keen on the company. If you can't articulate the value you'll bring to the company, you're not likely to get the job. Be honest: what value do you bring to the business?

The Canadian IT job market of 2003 is likely to be larger and looser than the 2000 version. Unless your career strategy to your potential employer's needs, keep upgrading your skills, and think in broad business terms as well as specific technical terms, and you'll maximize your potential to snag a job that is a stepping stone to the career you want.

—Jeff Evans



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To meltdown and back

A personal account of riding the technology bubble economy

By Geoff Wheelwright

A great deal has been written over the past decade about the challenges posed to technology companies by rapid and extensive growth, and how the difficulty of hiring and retaining qualified staff has been one of the major limits to that growth.

But in the stark new recession-tinged business world of 2001, many technology companies are facing the opposite task: figuring out how to reduce staff and other fixed costs as broadly and quickly as possible, while retaining their most talented employees and the ability to deliver their core products and services.

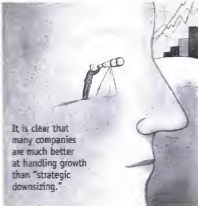
It is clear that many companies are much better at handling growth than "strategic downsizing"—or whatever other euphemism you wish to apply to the business of slashing jobs in an economic downturn. Some businesses, for get, for example, that the way they carry out layoffs can have a major impact on their operations in both the medium and long term.

As a recent dot-com refugee and a witness of four different sets of layoffs during the last 22 months, this writer can attest to the fact that there is far more to letting people go than merely telling the requisite number of employees that they no longer have jobs.

I worked at two different dot-com operations that provided financial content and online services through different phases of the 1999 to 2001 boom/bust cycle. The first was a public company traded on the Canadian Venture Exchange (now owned and operated by the TSX). It was the company's chief operating officer and when it came to make the first set of layoffs, I was the chief executive officer.

Making the initial set of layoffs was a gut-wrenching decision driven very much by a need to show profitability to investors. We needed to cut every possible cost we did not require to maintain an on-going operation. It was completely thoughtless.

I started by trying to be very honest with staff by telling them that layoffs were inevitable, but that it would take a



It is clear that many companies are much better at handling growth than "strategic downsizing."

few days to determine when, where, and how they would come. I was understandably chastised later for letting employees "go through hell" by leaving them uncertain about the status of their employment for three days while our management group determined the specific cuts we had to make.

So, I learned that layoffs have to be planned with considerable care and discretion.

A company should have in mind a clear set of goals in undertaking the layoffs, beyond the natural imperative of wanting to "reduce the burn rate" (the burn rate being the extent to which a company's monthly expenditures outpace its revenues).

In the best of all possible worlds, the layoff process should be taken as an opportunity to streamline the company. And that process begins by answering a few key questions, such as:

- What business are we really in?

- Can that business become profitable within the timeframe dictated by the reduced burn rate?
- If the current focus of the business cannot bring this change about, is there another business lurking somewhere within the company that can achieve the goal of profitability?

The answers to these questions are not always obvious. A company that runs an online shop selling vintage furs, for example, may have put a considerable amount of development work into its transaction-processing technology.

After extensive deliberation, this company may discover that there is a far brighter future for the company in providing consulting services and forming transaction handling technology in the online operations of brick-and-mortar retailers than in continuing to run its own fur retailing Web site.

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If you aren't expendable, prove it

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there are ways to do it. Whether it is via specially coded online offers that help you count sales leads from a specific campaign, the establishment of a dedicated 1-800 number that is only used to track leads from a single marketing event or ad campaign, or a dedicated email address for leads, these will, at least, give you some empirical feedback for management.

Otherwise, the temptation for management, particularly in a market downturn, is to cut advertising and marketing to a minimum on the basis that there won't be much business to attract until the economy picks up so why spend money on it right now?

What can you do about it?

As suggested above, you need to be able to establish to management the empirical results achieved by you and your colleagues. Don't always count on management to do this for you. If they are instructed by the demands of lenders, a declining share price, and a tough economic environment, they may not be spending as much time as they should on obtaining good data about how profitable the various elements of the company's operations are.

No matter what you do, there should be ways of measuring your effectiveness, and communicating that effectiveness to management. If you work in a call centre, for example, you may be able to demonstrate increased levels of customer satisfaction (i.e., this quarter we closed more than 50 percent of support incidents within 30 minutes of the customer calling). If you are in sales, the metric will be around either the number of deals you closed or the value of those deals.

Cost centre or profit centre?

Even if you work in a division of the company that actually doesn't make any money directly—or result in a direct increase in business—chances are that you provide vital infrastructure components to the company, or can help save it money. If your work is administrative, for example, you may provide services that the company would be very hard-pressed to do without, even though there is no direct evidence of that on the bottom line.

It is very easy to call administrative

Continued on page 32

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When looking for an IT job, one of the most important resources you have is your education, both in the traditional school system and in the form of professional certification (certs) of your IT skills.

Microsoft runs an enormous IT training and certification system within its Microsoft Developer Network (www.msdn.microsoft.com). MSN Canada's Mike Flynn says there are more than seven million subscribers to the MSN service and according to Microsoft Certified Professional magazine (www.mcp.com), there are over 1,180,000 Microsoft Certified Professionals and 63,000 Certified Database Administrators.

Guide Corp. is the largest database software publisher in the world, and a major competitor with Microsoft, in that field. According to Eric Mackinnon, the sales director of Guide University in Canada, IT professionals are interested in improving their professional skills as a continuing basis. This means Guide offers certification courses with a blend of learning options: classroom, remote learning, and self-directed learning. Guide provides the

certification standards and course material, operates its own Guide-run training centres and seminar tours, and approves Decile-authorized educational centres across the country.

Other software vendors, such as Lotus (www.lotus.com), SAP (www.sap.ca), and Computer Associates (www.ca.com) also run substantial training operations. Most offer reduced rates for students.

Sandra Simpson, chief executive of IT consulting Firm logical Process Corp., says IT professionals soon learn that courses run by software companies like Microsoft have a vested interest in pointing students solely towards their company's products, ignoring competitors' products.

A more diverse and balanced source of learning can be obtained from public educational institutions, such as community colleges like Toronto's Central College Centre for Creative Communication (www.cccommunication.com), private institutions such as ITI (www.iti.ca), or University of Guelph's Computer Applications Training program (www.capt.ca). Provincial ministries of education also operate youth

apprenticeship programs in IT and many IT firms offer internships to students on a part-time or full-time basis. Microsoft Canada, for example, has had an extensive intern program for many years, and having Microsoft as a reference on a resume could be very useful in IT job hunting.

IT associations that are not limited to a particular operating system or proprietary software application can be one of the best resources for doing the personal networking that turns up hot job leads.

There are many associations for IT professionals, including the Canadian Advanced Technology Association (CATA, at www.cata.ca), and the Information Technology Association of Canada (ITAC, at www.itac.ca). As well, the federal government has become very active in promoting IT training and development. The government's Innovation Strategy outlines its official blueprint for action (www.innovation.gc.ca/infocentre/infocentre.asp).

The federal government is also the largest single employer of IT professionals in Canada, with over 11,000 IT employees recruited through the Public Service Commission of Canada (jobs.gc.ca/employment) for its computer services occupational group. According to the commission, "The computer sciences

group is the fastest growing occupational group in the federal public service."

One of the more active regional IT organizations is the SMART Toronto group (www.smarttoronto.ca), which has as its goal to promote "Toronto as a world centre for technology, innovation and employment."

Chips 'N' CIPS

If you want a career designing computer hardware, rather than writing software, you're in luck. Canada is a leading creator of integrated circuits (ICs), CISCs, and graphics card maker ATI all have substantial IC design research and development programs in Canada. To gain the skills to get that kind of job, you may want to investigate the VLSC (Very Large Scale Integrated Circuit) Research Group at Canada's foremost computer technology campus, the University of Waterloo (www.uwaterloo.ca).

For a window on high level professional IT, the Canadian Information Processing Society (CIPS, at www.cips.ca) is perhaps the best chip association. It has special student membership rates (as do most Canadian IT associations). Founded in 1958, CIPS currently has more than 8,000 members in its wireless local divisions.

—Jeff Dixon

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WHAT'S NEW

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SONICblue Inc. (www.sonicblue.com) has added the iMac G4 to its line of digital audio players. The pocket-sized flash memory-based player has 192 MB of built-in memory, and a rechargeable NiMH bat-

tery, which the company says delivers up to 10 hours of power.

The device supports MP3, WMA, and Audible formats and comes with a carrying case and car cassette adapter. It is both PC and Mac compatible and ships with iTunes and Sonicblue software.

An optional memory backpack can increase the storage capacity by 32 MB, 64 MB, or 128 MB.

The iMac G4 has a suggested retail price of US\$249.99.

Software developer, ThinkFree Corp. (www.thinkfree.com) is making its office productivity software suite available on CD-ROM. Built primarily for Mac OS X, ThinkFree Office features the Java-based word processor, spreadsheet and presentation graphics programs ThinkFree Write, ThinkFree Calc and ThinkFree Show. The product was previously available only for download from the company's Web site.

According to ThinkFree, the software suite seamlessly reads and writes Microsoft Office File formats, offering

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Big-screen iMac bows in at Macworld New York

By Douglas Alder

NEW YORK—During his keynote address at Macworld Expo held recently in New York City, Apple chief Steve Jobs announced a new 17-inch LCD version of the iMac, with a GeForceMX graphics chip and 33 MB of DDR video RAM. The screen—which has a maximum resolution of 1,440x900—has a wide-screen format, making it ideal for watching letterbox DVDs.

The new iMac uses the same processor—as 800 MHz G4—as the existing 15-inch model, but includes a larger 80 GB hard drive, comes standard with 256 MB memory, and a CD RW/DVD Superdrive. It is currently selling on Apple Canada's Web site for \$3,149, with the 15-inch model being dropped to \$2,249 (for the base model, with 700 MHz G4 processor and GeForceMX video). No new G4 towers were announced.

No free lunch anymore

Effective Sept. 30th, Apple's popular and free Internet service, iDisk, will be replaced by iMac "dot Mac" on its "dot Net" from Microsoft. The new paid service increases the online storage capacity of iDisk to 100 MB and will backup software (which can be used for iDisk, CDs, or DVDs) and files from iMac OS. It's available immediately for an annual fee of US\$49.95 (existing iDisk



Stephen Canon (right), chief of U.S.-based Computer Services, passed Apple chief Steve Jobs, to show him a Mobile syncing technology during Jobs' Macworld keynote. Macworld also saw the debut of iChat, from top to bottom: a Touch for palm PDA, new iChat, including a Windows-ready model, and iMac online services.

users who sign up before the end of September pay only US\$49.95).

Connectivity and communication

Also announced in Jobs' keynote was a new "Mac to Mobile" Internet syncing technology. The system works for the newest GPRS cellular phones (via Bluetooth) using SyncML, Palm hand-

helds, and iBooks. It is based on open standards, to presumably more links will be added. It allows users to enter critical data on the computer, and lets the computer serve as a backup of the digital device malfunctions, in lost, or stolen.

Users will also be able to use iSync to sync to iMac. This new service will be available in September as a free down-

load, but users will need the newest version of Mac OS X, OS 9.2 (aka Jaguar).

Also introduced was Rendezvous, a new technology for "automatically discovering devices over any IP network, including wireless, with zero configuration," according to Apple. A variety of printer and networking companies plan to include the technology in their products, including Hewlett-Packard, Epson, and Lexmark. Rendezvous is based on open IEEE Internet standards. Other new networking features included compatibility with Windows networks using SMB browsing and sharing using built-in PPTP VPN security.

An AIM-compatible "iChat" client, iChat, will also be included in Mac OS 10.2 with Rendezvous support for discovering chat "buddies." Users will be able to send URLs in the messages, which can be clicked to open Web pages, or instantly transfer files. iChat will also give Mac users access to America Online's chat system.

Dates and times

Jobs also introduced iCal, a new Internet-based multiple calendar system that allows users to share calendars with friends or business associates. iCal features one-button publishing and subscribe capability, with calendars hosted either at Apple (on iMac servers) or on a local WebDAV server. iCal will also be a free download.

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Hands On

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An inkjet photofinish

TCP Test Lab finds image output from range of printer classes impressive

By Dave Chappelle

We'll say it at the outset: it's possible to print acceptable photos on almost any colour inkjet printer available on the market today. The "best" to that statement is that the results waiting in your printer output tray will vary according to several factors, including the number of ink cartridges, the printer's resolution, image type and size, and the paper used.

One of the most interesting developments in the inkjet market is how much printer you can get today for a fairly modest price.

Even a few years ago, decent inkjet printers cost several hundred dollars. Today, \$300 seems to be the median

price, and acceptable output can be had for about half that.

Of course, you give up a few things at the low end. Cheaper inkjet printers sometimes have only one cartridge, which, if you print a lot of test documents, for example, means the cartridge

has to be replaced when only one colour (black) has run out. A fairly wasteful and potentially expensive (depending on your printing demands) scenario.

Fortunately, most inkjet printers have at least two cartridges: one black, and

Continued on page 40

Legacy-free
(or pretty close)

By Sam Carothers

Going legacy-free has long been a goal of many computer manufacturers and power users—why burden your system with old technology strictly to maintain backwards compatibility when removing it will open up more space for new technology, and possibly increase system performance as part of the bargain?

Backwards-compatibility has been a very strong factor in the lack of pure legacy-free systems. All you have to do is consider Apple's tactical decisions over the last few years. The company has released a number of innovative legacy-free products, but no sooner had they been announced than party poopers popped up with criticisms like "Where's the floppy?" "Where'd the serial port go?" "How do I upgrade this thing?"

Manufacturers on the PC side of the

Continued on page 51



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See: 189L, 191, 227, 237	See: 189L, 191 & 227
219 <i>Thermopsis</i>	
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1. [The first step is to identify the problem.](#)

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Input photo/flash

Continued from page 41

able but elusive "small footprint," some manufacturers don't include input and output trays when listing the dimensions of a printer. We think this is misleading, so our measurements exclude the outermost limits of the printer with trays fully extended. Dimensions are expressed in order of width by depth by height. On models with vertical input trays, remember to allow for printer height when determining if your printer will fit your space.

Epson Stylus Photo R30

From Epson, www.epson.com
MSRP: \$149.99 (2000) MSRP
MSRP: \$149.99 (2000) MSRP
Dimensions: 46.5x26.2x13.0 in.
Price: \$ 599

Replacement cartridges: \$62.99 (black), \$34.99 (color)
As the name suggests, this is one of Epson's models designed specifically for photo printing. It's a six-color printer that uses Epson's lightfast inks, which means prints should last about 25 years before fading becomes noticeable. As a true photo printer, it takes slightly more time and effort to set up than many



color inkjets.

The software contains detailed instructions and video clips for setting up, installing, and troubleshooting the printer. We ran the head cleaning process three times before we were satisfied, but that is typical of inkjet photo printers.

The print software indicates ink levels, print job status, completed pages, time remaining, and includes printing improvement tips. ArcSoft Photo Impression and QPhoto PhotoGenius are bundled with the Epson software. The manufacturer claims that with a couple of printing 12 pages per minute (print) black, and one 4x6-inch photo in one minute, 42 seconds. With custom settings, one 20-page text file took 47

minutes, 15 seconds. At the fastest setting, the time for the same print job was 11 minutes, 31 seconds.

Both parallel and USB connections are supported. You can also enable wireless printing by purchasing a separate Epson Bluetooth wireless adapter for the printer's parallel port, which will talk to a computer that has its own adapter or has Bluetooth built in.

Included is Print Image Matching (see www.PrintImageMatching.com), an Epson-developed technology that's been adopted by major digital camera manufacturers. Its scales image printing color without requiring a lot of manipulation and colour control.

On specialty media, especially glossy photo paper, results were superb.

Lexmark Z55

From Lexmark, www.lexmark.com
MSRP: \$149.99 (2000) MSRP
MSRP: \$149.99 (2000) MSRP
Dimensions: 40.0x20.0x10.0 in.
Estimated street price: \$79
Replacement cartridge (set of four): \$34.99 (black), \$24.99 (color)

While this four-color printer isn't the cheapest in Lexmark's lineup, it's the first we'd really want to use to print pho-

tos. Lexmark doesn't make dedicated photo inkjets, but includes features such as PrecisionPhoto on the Z55, that improve its handling of the subtle texture and tone variations found in photographic images.



Automatic cartridge alignment on this printer means you no longer have to print a calibration page, then determine which sample is most closely aligned. Instead, during setup the cartridge heads are aligned when printing the calibration page. This speeds setup and removes the guesswork for uneasy first-time users.

Automatic paper-type sensing (Lexmark calls it PrecisionMatch) means it detects your paper color and adjusts ink output accordingly. Software adju-

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Test Lab: Wireless network printing

So you'll like a decent colour printer, and want everyone in your small office at home to have access to it, but running network cables involves either hiring a contractor, or staying the night in the wretched town, or the cable company.

If your budget makes the first choice unrealistic and your spouse forbids the latter, you may want to consider a wireless network printing solution. Epson has added just such a capability to its i800 printer, calling the wireless print server the CROWN.

For those already using wireless networks, the printer and EpsonNet wireless print server solution is ideal. The print server works with AirPort Base Stations (for Macs), PC wireless access points, and any computer equipped with a wireless adapter. It follows the 802.11b and Wireless Fidelity (Wi-Fi) standards. Of course, it's not completely wireless, as either a USB or parallel cable must connect the printer to the print server.

As we used a Belkin Wireless Access Point, we weren't required to choose from

either ad hoc or infrastructure mode when setting up the wireless connection. Don't worry: instructions are in the manual, and these items are as complicated as it gets. The CROWN uses the standard four colour cyan, magenta, yellow, and black (CMYK) cartridges and offers a maximum resolution of 2,880x720 dots per inch.

Instructions in the Setup and Installation manual were thorough. Our evaluation sample came with a Printer Basics guide, software CD, and parallel cable. The CROWN is also USB-capable.

The software displays link levels, print job status, the current page being printed, and pages remaining. From here the heads can be cleaned and aligned, or the print job paused or cancelled. Printer tips are also displayed when the printer software window is open.

With no encryption enabled, we sent a sample full-colour photo job wirelessly to the printer, which output the image in one minute, six seconds.

As a minimum, secure first line of defense against unauthorized network use, encryption is recommended when using

wireless networks. Wireless Equivalent Protocol (WEP) can be 64- or 128-bit. The higher the encryption level, the slower the transmission speed. Software difficulties with the i800 WAP prevented us from fully testing the printer with WEP.

Epson claims the CROWN can print up to 28 pages per minute in black. When connected to a workstation directly with a parallel cable, our 25-page test document printed in three minutes, 42 seconds, with the first page finished within 17 seconds of clicking "print."

Measuring 450x330 cm at the outermost edges of the input and output trays, it doesn't require a lot of space. The output tray holds 30 sheets; input tray capacity is 150 sheets or 85 envelopes.

Minimum requirements are listed in the manual, but any time a manufacturer places brackets around a recommendation that is double that of the "official minimum," you can be sure the recommendation is what's really necessary for trouble-free operation.

We've listed the recommendations instead of the minimums.



It uses CROWN

from Epson: www.epson.com
Requirements: Mac with G3 processor and OS 9.2 or higher, or PC with Pentium processor and Windows 95 or higher. Both platforms require 64 MB RAM, 250 MB disk space. VGA display adapter, and CD-ROM drive.
Estimated street price: \$179.

The Epson CROWN is covered by a one year Epson Exchange limited warranty.

—Dave Chiappelli

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An inkjet photofinish
Continued from page 45

cates print progress and ink levels.

Paper trays that fold into the printer chassis are a nice touch, as opposed to the typical separate trays that attach flexibly.

Twenty copies of our full-page colour PCL5 file printed in nine minutes, 36 seconds on the normal setting—faster than all the others we tested.

HP Deskjet 5550

From Hewlett-Packard: www.hp.co.uk

Max resolution: 4,800x1,200 dpi
Dimensions: 456x161x61 mm
Price: £249.99
Replacement cartridges: \$29 (black) \$29.99 (photo tri-colour)

In a departure from the stodgy beige or grey of most printers, the black and silver of this just-released Hewlett-Packard model definitely gets highest marks for looks. It has the input tray directly below the output tray, which means no knick-knaw allowance for paper is required.

HP makes a separate line of photo inkjet printers, and while the new 5500

isn't part of that line, it does address photo printing by offering a six-colour cartridge set as an option. The printer ships with two cartridges (one black, and one CMY combo) for four-colour printing. A duplexer, which automatically turns paper over for double-sided printing, is also available as an option.



it has automatic paper-type sensor as it sets inkjet drying appropriately, but also offers manual paper-type selection.

Both parallel and USB ports are on the back panel. The software also has a primer for using the printer over a network via an Ethernet or Direct print server and network cable/wireless access point connection.

Software for the Deskjet 5550 will work with Mac OS 8.6 and later, and Windows 95 and later.

The software indicates ink levels, but not number of pages printed, which isn't a problem unless you're attempting to time how quickly pages print.

HP claims this model prints up to 17 ppm black and 12 ppm colour. At the normal setting, our 20 copies finished in 18 minutes, 47 seconds, with excellent quality.

To enhance home user photo printing experience, HP has also developed postman photo paper with improved lightfast characteristics designed to preserve images longer than traditional papers.

Lexmark 265H

From Lexmark: www.lexmark.co.uk
Max resolution: 4,800x1,200 dpi
Dimensions: 490x330x66 mm
Price: £279
Replacement cartridge (set price): \$34.99 (black), \$29.99 (colour)

The big deal here is the networking feature. In this price range few printers feature a built-in network interface card (NIC). Easily set up, this two-cartridge printer offers excellent resolution and the usual Lexmark quality. The four-colour ink system handles photo printing without the expense of a special photo cartridge.



Networking was relatively simple, thanks to the setup manual. We checked slightly and used an IP address we knew would work, but all of the different methods for setting up the printer on a network are outlined in the manual.

Automatic cartridge alignment with setup time and the automatic paper-type sensing optimizes ink distribution according to your paper choice.

The trays that fold into the printer chassis are a nice touch, as opposed to the typical separate trays that attach flexibly. There are two input trays, which can be used to hold different sizes of paper (legal or letter) or different paper types.

Continued on page 50

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IN 1.5k \$3750
Lease for 672 mos.
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IN 1.5k \$3800
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IN 1.5k \$3900
Lease for 708 mos.
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Lease for 720 mos.
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IN 1.5k \$4050
Lease for 744 mos.
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IN 1.5k \$4100
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IN 1.5k \$4150
Lease for 768 mos.
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IN 1.5k \$4200
Lease for 780 mos.
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IN 1.5k \$4250
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IN 1.5k \$4300
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IN 1.5k \$8800
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IN 1.5k \$8850
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IN 1.5k \$8900
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IN 1.5k \$8950
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IN 1.5k \$9000
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IN 1.5k \$9050
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IN 1.5k \$9150
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IN 1.5k \$13550
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IN 1.5k \$15150
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IN 1.5k \$15250
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IN 1.5k \$15300
Lease for 3444 mos.
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IN 1.5k \$15350
Lease for 3456 mos.
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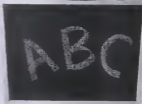
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An inkjet photo finish

Continued from page 53

left panel of the printer (works only with certain Canon digital cameras). Or, insert a memory card into the onboard PC Card slot (MemoryStick, SmartMedia, CompactFlash, and others will work with the proper adapter—no CompactFlash adapter is included).

Buttons on the right of the control panel are used when printing images without a computer. A 4.5x5 cm LCD indicates status of the print job.



A removable cover on the top-right conceals the TTF port. An optional TTF viewer lets you display images stored on the inserted memory card.

This model is a six-color printer that uses individual cartridges for each

colour (CMYK, plus shades Canon calls Photo Magenta and Photo Cyan). The company rates the lightfastness of images from this printer at 25 years, when used with Canon Photo Paper Pro.

The software allows for a great deal of control over the image. You can start by printing a job on automatic, then change to manual and compare results. Manual has default settings, allowing you to take control gradually as you learn, which colours you want to intensify and which you want to lighten.

In standard mode, our 70-page PDF printed in 45 minutes, 40 seconds. Draft mode reduced the time to 15 minutes, 50 seconds, with some graininess in some image portions.

The exceptional output quality of a printer intended for photo images really must be seen to be appreciated.

Canon has replaced this printer with the S8050, but only the S8200 was available for evaluation in time for our deadline. The good news is that the S8200 is priced lower, at \$674. □

Infonec Computers

Office 209 ECB XT594 ATX MB Intel Pentium III 500 MHz 640 MB RAM (2x32 MB) 10.4" TFT LCD 3.5" Floppy Drive 3.5" CD-ROM Drive 3.5" DVD-ROM Drive 3.5" Hard Drive 3.5" Modem 3.5" Keyboard 3.5" Mouse	Supreme 309 MSI 6336P N75 Ultra MB Intel Pentium III 500 MHz 640 MB RAM (2x32 MB) 10.4" TFT LCD 3.5" Floppy Drive 3.5" CD-ROM Drive 3.5" DVD-ROM Drive 3.5" Hard Drive 3.5" Modem 3.5" Keyboard 3.5" Mouse	Home 409 ASUS TUG500 MB Intel Pentium III 500 MHz 640 MB RAM (2x32 MB) 10.4" TFT LCD 3.5" Floppy Drive 3.5" CD-ROM Drive 3.5" DVD-ROM Drive 3.5" Hard Drive 3.5" Modem 3.5" Keyboard 3.5" Mouse	Xtreme 509 ASUS P4B533 ATX MB Intel Pentium III 500 MHz 640 MB RAM (2x32 MB) 10.4" TFT LCD 3.5" Floppy Drive 3.5" CD-ROM Drive 3.5" DVD-ROM Drive 3.5" Hard Drive 3.5" Modem 3.5" Keyboard 3.5" Mouse
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Office 209 ECB XT594 ATX MB Intel Pentium III 500 MHz 640 MB RAM (2x32 MB) 10.4" TFT LCD 3.5" Floppy Drive 3.5" CD-ROM Drive 3.5" DVD-ROM Drive 3.5" Hard Drive 3.5" Modem 3.5" Keyboard 3.5" Mouse	Supreme 309 MSI 6336P N75 Ultra MB Intel Pentium III 500 MHz 640 MB RAM (2x32 MB) 10.4" TFT LCD 3.5" Floppy Drive 3.5" CD-ROM Drive 3.5" DVD-ROM Drive 3.5" Hard Drive 3.5" Modem 3.5" Keyboard 3.5" Mouse	Home 409 ASUS TUG500 MB Intel Pentium III 500 MHz 640 MB RAM (2x32 MB) 10.4" TFT LCD 3.5" Floppy Drive 3.5" CD-ROM Drive 3.5" DVD-ROM Drive 3.5" Hard Drive 3.5" Modem 3.5" Keyboard 3.5" Mouse	Xtreme 509 ASUS P4B533 ATX MB Intel Pentium III 500 MHz 640 MB RAM (2x32 MB) 10.4" TFT LCD 3.5" Floppy Drive 3.5" CD-ROM Drive 3.5" DVD-ROM Drive 3.5" Hard Drive 3.5" Modem 3.5" Keyboard 3.5" Mouse
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Office 209 ECB XT594 ATX MB Intel Pentium III 500 MHz 640 MB RAM (2x32 MB) 10.4" TFT LCD 3.5" Floppy Drive 3.5" CD-ROM Drive 3.5" DVD-ROM Drive 3.5" Hard Drive 3.5" Modem 3.5" Keyboard 3.5" Mouse	Supreme 309 MSI 6336P N75 Ultra MB Intel Pentium III 500 MHz 640 MB RAM (2x32 MB) 10.4" TFT LCD 3.5" Floppy Drive 3.5" CD-ROM Drive 3.5" DVD-ROM Drive 3.5" Hard Drive 3.5" Modem 3.5" Keyboard 3.5" Mouse	Home 409 ASUS TUG500 MB Intel Pentium III 500 MHz 640 MB RAM (2x32 MB) 10.4" TFT LCD 3.5" Floppy Drive 3.5" CD-ROM Drive 3.5" DVD-ROM Drive 3.5" Hard Drive 3.5" Modem 3.5" Keyboard 3.5" Mouse	Xtreme 509 ASUS P4B533 ATX MB Intel Pentium III 500 MHz 640 MB RAM (2x32 MB) 10.4" TFT LCD 3.5" Floppy Drive 3.5" CD-ROM Drive 3.5" DVD-ROM Drive 3.5" Hard Drive 3.5" Modem 3.5" Keyboard 3.5" Mouse
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Legacy-free (or pretty close)

Continued from page 38

squares have been a bit more cautious when considering the legacy-free PC.... OK, a lot more cautious. Though a number of companies have talked it up, very few have been willing to put their money where their vision is and actually eliminate all of the old technology.

Of course, one of the biggest problems with trying to go legacy free is that the industry moves so quickly that something considered legacy-free today will quite possibly have components considered "legacy" within a few months. For example, one of the "legacy-free" boards we currently have in the lab has ATA133 connectors onboard for hard drives or RAID, but by the end of the year these connectors may have been replaced by Serial ATA connectors on the newest boards.

If you're planning to upgrade your system so it's legacy free, here are a few things to keep in mind:

- Make sure you have a USB keyboard handy—the PS/2 connection you may have used in the past will be gone.
- You may not be able to plug in both mouse and keyboard while setting up the system, start with keyboard only if the system doesn't respond.
- Any devices you have that use parallel or serial connectors—such as printers, card readers, or digital cameras—will have to be replaced/upgraded.
- Some older hard drives may not work properly on faster channels, especially if mixed with faster drives (especially true with ATA133). Try to upgrade your hard drives at the same time so ones that will be the optimal fit for your new interface.
- If you have ISA cards in your current system, you'll have to move them over to the PCI bus or get a motherboard that has the functionality of those cards already built onboard (sound, Ethernet, etc.).
- Chances are there will be either a USB 2.0 or FireWire connectivity on board. While USB 2.0 is designed to work with the older USB 1.1 devices, you'll probably want to upgrade any USB hubs you have to 2.0 in order to achieve full speed for all of your attached devices.
- Oddly enough, there may still be a connector for the trusty old floppy disk on the motherboard—it seems to be the one "legacy" component that

Continued on page 34

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Wooden raises the bar again

Continued from page 56

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The price is definitely an eye- opener for those of us who are accustomed to desktop systems designed for everyday use.

Power users, on the other hand, are less likely to even bat an eye at the price, especially considering what's included. All of the components included in this machine are top notch, and worth every penny.

Of course, you're also paying for the extra attention that Wooden puts into each custom system, from the building process down to the paint job and excellent cable management.

If you want to lower the price somewhat, you can choose cheaper options for some of the components. (In the build-your-own-PC version of Wooden's Web site, you can configure a system using the drop-down menus, and see how each choice affects the bottom line; for example, the 23-inch monitor included with this system alone adds \$1,300 to the total.)

Again, we stress that this price point is for the most powerful configuration that

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Securing WiFi networks

Wireless hubs attracting unwanted surfers

By Geoff Wheelwright

So you want to offer wireless access on your small business network while maintaining a high level of security.

If you are planning to use the popular 802.11 wireless networking technology, commonly referred to as WiFi, to accomplish this, you may want to think about buying a security solution to go along with it.

At least that's the warning from a number of wireless security providers, who see wireless network access as a tempting prospect for users and a sales opportunity for themselves. According to Ryan McGee, the group product marketing manager for Bowerset, an on-board Network Associates McAfee Security division, wireless networking by small businesses must be implemented with care.

"There are some scary possibilities with wireless networks to the point now where, without entering your building, it can pull into your parking lot and gain access to the network," he warns. "The scary thing from a virus standpoint is that it makes a convenient way to download a virus on the network. You don't have to go through the firewall or



get anyone to double-click on an attachment."

He says the greatest risk for this kind of security exposure is faced by small businesses and departments of larger companies

"You buy a wireless network access point and plug it into your Ethernet port and you're the cooked guy in the cake," McGee says, in explaining the appeal of "rogue" wireless access points.

Continued on page 16

Security consciousness raising

Soltrus Web courses target techies and non-techies alike

By Dave Chappelle

While everyone acknowledges the need for security, few can be bothered to learn the practical aspects, let alone technical details. We all know we're supposed to practice secure computing, but most view information security as an annoyance.

When was the last time you changed your password?

Security knowledge should provide you with the tools necessary to make hacking your system difficult, to bad people move on to an easier target.

To educate potential customers and other interested users, digital trust provider Soltrus, (www.soltrus.com) and security consulting and training firm RedStem (www.redstem.com) have opened an online Information Security University (infosecitg.com), which offers training in several security subjects.

Director of product marketing Anthony Santilli says that Soltrus realizes educa-

Continued on page 16

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Securing WiFi networks

Continued from page 62

"But [when you do that], you've compromised the network."

He says that when IT departments are put in charge of implementing wireless access solutions, they generally pay attention to these issues:

"They don't forget the port [of a network security breach] because they were the ones who stayed up for 48 hours after the virus attack and now fear for their jobs."

Many small businesses, of course, do not enjoy the luxury of having IT professionals and network administrators on staff. Despite that, McGee says, small and "mid-enterprise" businesses have discovered the need to be a lot more proactive in how they deal with viruses.

"A year or two ago when large companies saw viruses like Melissa and Love Letter appearing, they had to ask where the spread came from, particularly since even their every Windows 2000 customer used McAfee or Symantec [Norton Anti Virus]," he explains.

"So where was it coming from?" [The
Continued on page 67]

Hot spots invite public use of WiFi

OK, I'll admit it. I have siffled. With all the recent stories about how exposed home and small business users are becoming security risks by installing 802.11b-based wireless networks without the necessary safeguards, I thought I'd do a little field research.

So I set off in search of exposed wireless networks, armed with my Hewlett-Packard Pavilion notebook and IBM Wireless LAN PC Card. I set the notebook up on the seat beside me, with the wireless network properties screen facing me, and I slowly drove through the neighbourhood, pressing the Refresh button (prompting the system to search for an available wireless network) whenever it was safe to do so.

I succeeded in getting wireless Internet access from two networks—one outside somebody's house and the other outside a school. I only detected about 30 minutes to this experiment and I'm sure that I would have found other available networks if I had taken more time [and had the energy and interest to do so].

There are "wireless network sniffer"

tools available and anybody you can run on your 802.11b-enabled handheld computer that are dedicated to this task. And they are, of course, complete and utter violations of privacy and represent theft of someone else's Internet connection. You should not try this at home [I'll for so other reason than you might take some questions amongst your neighbours by driving slowly in front of their houses with your notebook computer flipped open on the seat beside you].

I succeeded in getting wireless Internet access from two networks—one outside somebody's house and the other outside a school.

In some areas, however, wireless network sniffer tools are deliberately making their connections available to anyone who happens to come along.

Some of these connections are com-

mon in nature (such as the ones at many U.S. airports from companies such as Mobilicity, which invites you via an on-screen browser message to enter a credit card number before you are granted any wireless Internet access there), while others are part of a growing ad-hoc movement to offer free public wireless Ethernet access.

In cities such as San Francisco, you can now find published "hot spots" where users are deliberately sharing their wireless access and broadband connections in the hopes that others will do the same. The goal of these enthusiasts is to have enough participants in this sharing of wireless Internet access that users will have free broadband wireless wherever they go.

Some broadband providers have started to revolt against this trend, however, on the basis that it allegedly violates the user's terms of service. Just how and whether they will crack down on the misuse and/or

—Geoff Theelwright

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ASUS XPL-2.0	\$1947.00		

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Securing WiFi networks

Continued from page 54

answer was that they came from small businesses, who didn't know they had to update and who didn't have anyone who could handle IT issues. In some cases, they weren't even sure that viruses were real.

As a result of dealing with the aftermath of these viruses, McGee says small businesses now have a greater awareness of the issues around network security

and viruses.

He is optimistic about how they will react to warnings about the need for wireless security.

"Even if you are a small guy you can be at risk of losing business to a virus," McGee says. "They [small businesses] didn't count on getting a virus and spreading it to customers. The turning point was the shame-faced email that they had to send [to notify customers that] not to open viruses-infected email that

purported to have come from them."

One impact of this perceived shift has been that companies such as Symantec and Network Associates have been forced to respond much more quickly to security issues and anti-virus updates.

"Four or five years ago it was acceptable and accepted that it would take a few days to get a fix and distribute it to customers, and then another few days to get it out to the enterprise," he says. "Now the fix needs to be on the Web site within an hour of discovery and on every workstation within another hour. The current big push at McAfee is to deliver solutions that allow us to make that distribution for a 30,000-user environment within an hour."

Network Associates is not the only company concerned with these issues, particularly about creating solutions for wireless security.

According to Yogesh Gupta, chief

technology officer of software giant Computer Associates, wireless security solutions have to be implemented with considerable care.

If someone in a small company decides that they want to have wireless access to the company network and install a wireless LAN access point to create that access, they may be creating security problems for their company.

"This means that secure wireless access points can be created without the network administrator even realizing it has happened," he said, in announcing a number of new wireless network management products at the company's CA World event in Orlando last April.

"You need to allow people to configure those access points and data message availability and performance of them. You also need to include intrusion detection into wireless management systems."

High-tech hobos mark wireless pathways

Drawing inspiration from the past, road warriors looking for open wireless networks to tap into while out and about have found a way to help each other. Warchalking, a term derived from wandering and mark-making, describes a recent idea that has spread through the WiFi (802.11 wireless networking standard) user community almost as quickly as a network, wireless or otherwise, could carry a virus.

Warchalking is marking open wireless network access points with chalk on a wall or sidewalk, so the next WiFi user to happen by can benefit from the bandwidth to check email or surf the Net. Drawing on the history of hobo signs, the idea was coined by Matt Jones and several of his friends over lunch in June. Jones registered the domain warchalking.org and started a site dedicated to developing the idea and charting its progress.

Within weeks, warchalking had been discussed by Slashdot, Wired, The New York Times, BBC News, LA Weekly, and The Seattle Times. By July's press time, Jones had posted messages from warchalkers marking up their networks and their neighbourhoods in Copenhagen, Denmark; Santa Monica, San Jose, and San Francisco, Calif.; Seattle, Wash.; Bellevue, WA; Charlottesville, Va.; and London, England. Jones' home town, the site has even inspired schools in the area, including Charlottesville, by Nebiggoer Gary Turner (warchalking.net) who points out that people rarely carry chalk with them, and so propose symbols chalkers can use to mark stationary stores and other places that sell chalk.

Tapping into open wireless networks is not without risk, though, particularly if the network owner doesn't want visitors or doesn't realize the network is unprotected. In late July, the Houston Chronicle reported that Stefan Pylles, a computer security analyst in Houston, Tex., had been indicted by a grand jury on two counts of fraud for allegedly breaking into the wireless network belonging to the Harris County district clerk's office. If convicted, he faces up to five years in jail and a US\$150,000 fine on each count.

—Sharon Rytner



For the convenience of warchalking visitors, a pocket card of symbols is available at warchalking.org.

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Security consciousness training

Continued from page 56

preferred learning style—get it.)

Each section is peppered with multiple-choice questions. When the correct answer is chosen, it is highlighted with a green square and the sound of a beeping ring.

Clicking on the wrong answer produces a red check mark and an annoying buzz. In the introductory cryptography course, a popup window explains why each answer is either correct or incorrect.

Appearing in the lesson text are links to an extremely thorough glossary, which is different for each course.

Clicking one of these linked words opens another browser window, allowing you to park the glossary window out of the way in a corner of your screen, ready for further study. You can scroll through the entire glossary from whatever point you access it.

The introductory course is very basic, requiring little computer knowledge. It explains the hows and whys of passwords, data backup, hackers, viruses, DoS, zombies, physical security, and the most common and easily perpetrated attacks: social engineering.

There are no complicated terms, no in-depth explanations, and no mathematical formulas.

In the cryptography courses we were introduced to codes, ciphers, algorithms, and instances, and current examples of cryptography in practice. Each successive course expands on the previous.

The exam can be taken any time, but is obviously best taken upon completion of the course.

The exam and course can't be accessed at the same time—that would be cheating—but the exam can be taken as often as is necessary to answer all questions correctly.

But, if you prefer to cheat, it is easy to copy and paste the course review section into another application for reference when taking the exam.

For a general interest course, the wording of questions in the introductory exam seemed tricker than necessary. Some questions weren't recognizable from course material, and we didn't always agree with the complicated definitions in the main glossary.

Cryptography exam questions seemed to be taken directly from the course, though.

Course prices range from \$169 to \$249. It seems high for relatively short courses

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Fun with Excel controls



Few people know Excel's form controls, and even fewer understand them. It's a shame, because they are an easy and fun method of entering data into work sheets. Form controls include sliders, spin-

ners, combo boxes, and option buttons that you add to your worksheets to automate data-entry tasks.

Year first convicted

Start with a blank worksheet and choose View, Toolbars, then Forms. (Curiously,



You can create lists and many ways to enter data into a spreadsheet using these controls.

Right-click the horizontal scroll bar and choose **Format Control**, then select the **Control** tab. This is where you set the behaviour of the control. Enter these val-

Current value: 20
Minimum value: 0
Maximum value: 3000
Incremental change: 10
Page change: 80
Cell Lock: Del

Click OK, click away from the scrollbar so it's no longer selected, then test it. Notice that clicking an arrow changes the value in cell D4 by 10 (the incremental change value), and clicking the scrollbar on either side of the handle alters the value by 100 (the Page change value). The scrollbar controls the value in cell D4 because you set it up to link to this cell.

Overcoming Limitations

Now that you've discovered how simple it is to create a scroll bar control, you can add them to your worksheet and use them.

to alter the value in a cell. However, there is a limitation: controls like the scroll bar and the spinner can only provide integer values between 0 and 32,000.

You can easily get around this by scaling the value a control provides to produce an enormous range.

Consider this situation: you want to use a control to provide an interest rate that is between 0 and 10 percent with increments of 0.1 percent.

To do this, set your control up with these values:

Current value: 50
Minimum value: 0
Maximum value: 100
Incremental change: 1
Page change: 0
Cell link: 0

Click **OK**, then enter the formula `=D4/100` into cell **C4** and format the cell to display percentage values and two decimal places.

Now test the scroll bar. It provides the exact values we needed in cell C4 and is

Continued on page 20

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lin into the worksheet. For example, if you have a list of customers, account numbers, and discount rates, and you want to automate the process of sending an invoice, a combo box can do the work for you. All you need do is to set up the data in a worksheet template and use it whenever you need to send an invoice.

To create the basis of the system using a combo box, open a new worksheet, type some customer names (three or four is all you need) in Sheet2 in column A, account numbers in column B, and discount values in column C.

Now select the area into which you added your data, choose Insert, Name, Define, type the name Customers, and click OK. Switch to Sheet1 and create a combo box in cell C3, widening column C so it is about triple its default width, and size the combo box to fit in that cell. Right-click the combo box, choose Format Control, select the Control tab, and set the Input Range to Customers and the Cell Link to D3, and click OK.

Now try out the combo box by clicking the dropdown arrow and selecting a customer from the list. When you do, the chosen name displays in the combo box

and cell D3 displays its value in the list (starting at "1" for the topmost entry).

To extract the customer number from the list on Sheet2 using the data from the Combo box, type =INDEX(Customers,D3) in cell E3, then type =INDEX(Discounts,D3) in cell F3. The INDEX formula takes the list you've called Customers and looks for the value at the intersection of the row and column you specify in the formula (row first, column second). In the case of the formula in cell E3, you've specified the row currently showing in cell D3 and column 3, in the formula in cell F3 it's the row in cell D3 and column 3. The simple INDEX for data is useful when you know the row and column number of the data you want to extract.

Checkboxes

A checkbox returns a value of true or false, so it's used when only one of two settings is possible: on/off, yes/no, or maybe/for example. For example, you may offer to accept parcels, so a customer can either choose yes or no. To see how this works, add a checkbox line cell G3, right-click it, choose Edit Text, then type Insurance.

Right-click the control, choose Format Control, Control tab, set the Cell link to H3, and click OK.

Test the checkbox and note that cell H3 displays True or False according to the state of the checkbox. Use an IF function to make a calculation based on this value, for example add the formula =IF(H3,5,0) in cell I3. Now test the checkbox and see that the value in cell I3 varies according to whether Insurance is selected or not. When you're using form controls that return values you are using again in formulas, and where you don't want to use or see the value returned,

Security considerations raising

Continued from page 58

but it is specialized content and Selwyn/Sedman includes material from experts in the various subjects covered. As well, setting up and maintaining the infrastructure for online courses is complicated and requires continual maintenance.

Students are paying for the convenience of being able to log on and review course material at any time—even the middle of the night.

As well, the price range is cheaper than

the relevant columns of the worksheet. An alternative is to have the values returned but have the controls appear on another sheet (create the cell link on Sheet2, for example), so you only see the result of the final calculation.

You'll find most of the form controls are easy to use. The most complex are the spinner and scroll bar because of the need to scale the values they provide. □

John Bradley specializes in writing books on information technology for a number of publications in Australia, the U.K., and the U.S. Contact him at john@johnbradley.co.uk.

many day-long classroom courses. Both courses and exams can be accessed for one year after registration.

At this price, these courses should appeal to employers with a limited training budget.

And having a more security-savvy workforce could benefit an organization's bottom line over the long-term, by reducing the number of security-related IT problems and maintenance costs and increasing productivity.

A little knowledge is a good thing. □

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Comdex Canada 2002 smaller, less flashy

By Sean Connolly

While getting pretty used to the big technology trade shows sprinkling a bit every year, a recent trip to PC Expo in New York City found a much smaller show overall, and even Comdex Las Vegas is steadily downsizing. It's not a big surprise, then, that the 2002 edition of Comdex Canada, held in Toronto July 10-12, was also smaller than its previous years.

What was also surprising was the general focus of the show. As the shows get smaller, there's less incentive for large top-tier manufacturers to participate (smaller shows means smaller crowds, which means less exposure). This year, you could almost count the number of large vendors at Comdex Canada on your fingers... and maybe even on those of one hand. The majority of booths housed smaller startup companies, service providers, distributors, resellers—the ones-and-bobs crowd. From that perspective, Comdex is going back to its roots. That's not to say there wasn't anything of note. Here are a few things that caught our attention this year.

Merlin SecurDVR

For years, security camera surveillance has used a VCR and a videotape-based storage method. Burnaby, B.C. based Merlin Software (www.merlinsoft.ca) hopes to kick security systems into the

digital age with SecurDVR. The product is available in rack-mount and stand-alone form factors, and supports input from up to 16 military-standard NTSC or PAL video cameras (both BNC and RCA inputs). The product will capture 5280x2880-resolution M-JPEG images at up to 128 frames per second, and can be set to record only when motion is sensed or if a door/window contact is broken.

The SecurDVR can also be configured to trigger security alerts or send pager messages when events occur. The box runs a customized operating system that allows the hookup of standard PC equipment like mouse, keyboard, monitor and USB peripherals, among other items. A hard drive of at least 80 GB is included in the box, and there are external storage options, including a link to a Merlin EnterpriseServer. For more information on pricing and configuration, check the Merlin Web site.

Microsoft Tablet PC

We're already reported on Microsoft's new Windows XP Tablet PC edition operating system, and journalists were treated to a demonstration of the capabilities of the new OS.

Eric Moll, Microsoft Canada's Windows XP marketing manager, gave a hands-on demonstration of an early version of the new OS, interacting with his own PowerPoint presentations, skimming on slides, and highlighting key points in

color. Moll also demonstrated the potential power of the stylus, which includes both a right-click option and a digital eraser on the opposite end of the point.

Most impressive was the handwriting-recognition capability. It would be generous to say that Moll had top handwriting (as it would be for my own), but the OS recognized about 80 percent of his on the fly input, which was written at various angles. Both Verbatim and Acer showed off prototype units at the event, both of which made us eager to get our hands on final products when they start shipping in November (We test drive the Acer tablet for the August issue. See our review at www.comdexcanada.com.)

ATI offers sneak peek of new Radeon

Though the products were officially announced after the show, a few journalists got a sneak peek at the new ATI Radeon products that should be shipping by the time you read this.

The Radeon 9000 is the first product out of the gate, bringing DirectX 8.1 capability down to a consumer-friendly price point (it runs competition at this price will be the DX7-only GeForce4 MX series). Though both products will be available simultaneously for a time, the 9000 is designed to replace the Radeon 8500.

More impressive will be the mid-August launch of the Radeon 9700 card,

which not only moves up to DirectX 9, but also marks the first AGP 8x-capable card. The rest of the specs of the card are such an improvement over the previous generation of the Radeon that ATI has taken to calling the new graphics processor a VPU, or visual processing unit.


The benchmarking numbers ATI showed off at the briefing were very impressive, supposedly blowing past the best GeForce4 Ti cards by a substantial margin. We will, of course, be doing our own hands-on tests to verify this as soon as we're able. Check www.comdexcanada.com for more detailed specs on the new models.

Ipson brings out new models

Ipson showed off a number of new products, and while we'll have to wait to tell you about some of them, by the time this issue is in your hands you'll be able to check out two new photo printers.

The Stylus Photo 525 and 525 models (\$299 and \$449, respectively) will both sport a resolution of up to 5,760x720 using Ipson's Biochrom Performance Management, which allows variable sized droplets for more accurate printing.

The 525 has a few specific card readers built in, while the 525 features a PC Card slot and a few adapters. The 525 also supports an optional preview monitor (\$129) for viewing your images from the prints. Both printers will print your images without having to be hooked up to a PC. □



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Handspring bets on Treo

By David Tanaka

What do you do when you have an established product line that's solidly in the Number 2 spot, a new product in a relatively untapped category, and money to develop just one? Faced with that dilemma, Handspring Inc. (www.handspring.com) bet on the future, and Donna Dubinsky, the company's co-founder and chief executive, at a keynote address during Comdex Canada in early July.

Even though Handspring's Palm handheld computers have the second largest market share amongst Palm OS devices, the company will be focusing its development efforts on the new Treo platform—and entering the somewhat murky waters of mobile wireless data communications.

Dubinsky said the prevailing views of the wireless market take two extremes: the not-gonna-happen school versus the wireless-is-inevitable school. Those in the not-gonna-happen camp point out that wireless operators are losing money, and moreover, there is no clear indicator of growth in demand for wireless mobile data services.

By its actions, Handspring is clearly in the other camp and Dubinsky talked about several reasons why. "Voice networks are the right networks," she said. "It is absolutely clear that we are going to get strong packet data support on the voice networks." She said other advantages of piggybacking data on the voice networks include better geographic coverage, better economics because of shared costs, and better reach through data roaming.

Packet data also means higher throughput, but to Dubinsky, "always-on is the far greater benefit. We don't ship a lot of data across these networks, but the ability to turn on the device without a delay and immediately be doing something on the Internet or getting your email is really a tremendous ability that packet data gives you."

Dubinsky then turned attention, arguing the strengths of the Treo, which incorporates a digital phone and a Palm OS-based organizer. For one thing, she says the whole is greater than the sum of the parts, meaning that the Treo creates new functionality. For example, the Treo



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allows a user to dial via a numeric keypad or by typing in part of a name in an address book using the built-in alphanumeric keyboard. "So instead of dialing 10 arbitrary numbers you type three non-arbitrary characters," said Dubinsky. "It's speed dial for everything in your address book." The keyboard also facilitates short messaging, which many business people find additive once they've used it a few times.

While the Treo isn't the smallest phone available, neither is it as large as other phone/organizer combos. Dubinsky said companies were necessary, but the main design principles were size and portability, not best of breed functionality.

Handspring also recognizes the challenge of entering a space that's neither purely in the realm of computers, nor of telephones, and Dubinsky. For example, computer stores and phone stores have different expectations and knowledge bases, so educating retailers about a product like Treo requires at least two approaches.


She said the telcos will have many network, customer, and product issues to solve. For example, roaming agreements for data networks are at an early stage of development, and tariff plans are "all over the map." And Handspring said it was just completing the software that would enable the Treo to operate on the GPRS data network. □

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
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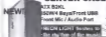
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WHAT'S NEW

Continued from page 38

compatibility with Microsoft Word, Excel, and PowerPoint files. In addition, the software includes a certificate for a one-year subscription to ThinFiber's CyberDrivePlus services (Internet file storage, upgrades to the software on any supported platform, and unlimited email customer support). The package also includes a non-expiring software license and a printed user guide.

The US\$49.95 shrink-wrapped software package was not available from Canadian retailers at press time, but can be ordered from ThinkFree's Web site the same price.

Lexmark Canada Inc. (www.lexmark.com) has introduced two new multi-function peripherals for the home or small office: the **X125 All-In-One Office Center** and the **X75 All-In-One Print Center**.

The X125 combines a colour printer, standard fax machine, scanner, and photocopier. It has a maximum print resolution of 2,400x1,200 dpi (6 ppm per inch), and maximum print speed of 16 ppm (pages per minute) black, and 8 ppm colour. It faxes—monochrome or colour—at up to 33.6Kbps and can store up to 80 pages. As well, it has a maximum 600x1,200 dpi optical resolution (3,600 dpi enhanced) and 36-bit colour scan depth. As a copier, it can output up to 12

cpi (copies per minute) black and 5 cpi colour.



The Lexmark X75 has an estimated street price of \$249 and comes with a high-resolution colour cartridge, power and phone cords, and a software bundle.

The Inkjet-based X75 is less than half



the height of Lexmark's other All-In-One models. It offers print resolutions of up to 2,400x1,200 dpi, and has a maximum print speed of 13 ppm black and 6 ppm colour. The scanner has a resolution of up to 600x1,200 dpi (3,600 dpi enhanced) and 48-bit colour depth. It can be used with the PC to produce black and colour copies, at up to 9 cpi black and up

A stitch in time online

Bringing new meaning to the concept of "convergence," 112-year-old sewing machine manufacturer Bernina (www.bernila.com) has unveiled a sewing machine that is powered by Microsoft Windows CE and can connect to the Internet. In keeping with things high-tech, Bernina is calling the aptly 2000, "a sewing and embroidery system."



Among the technologies on the aptly 2000 are more commonly seen on a personal computer: a colour touch-screen display, a modem (optional) for connecting to Bernina's portal to download embroidery designs and tips, a PC Card slot. For downloading designs from embroidery cards; and a USB port, for connecting the aptly 2000 to a CD-ROM drive.

The aptly 2000's array of complex embroidery tools indicate that this system is not aimed at the casual sewer. With it, users can enlarge or reduce an embroidery design, as it automatically recalculates the number of stitches needed to maintain the original design; import embroidery motifs from a range of sources or create designs with the included software, and embroider an area of up to 15.5x25.5 cm (3.7x10 in.).

The machine averages speeds of 600 stitches per minute (maximum 900 spm), offers 360-degree rotation and on-screen editing of designs, has a library of more than 850 stitches, and 36 directional sewing capabilities.

The mother of all sewing machines does not come cheaply, however. The aptly 2000 has a suggested retail price of US\$4,799, and US\$999 for the modem.

to 4 cpi colour. The printer also comes with BWP PhotoTools and integrated photo-editing software. The X75 has an estimated street price of \$199.

Kensington Technology Group (www.kensington.com) has developed a small fan that plugs into the USB port of a laptop.

The tiny **Hyflon** draws power from the notebook battery, but the compact design and lightweight nylon blades mean it runs less than five minutes of power for every hour of notebook battery charge, according to Kensington. The company also says the fan motor

Continued on page 718

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Red Hat Linux 7.3 revealed

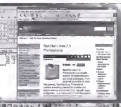
This latest distro is evolutionary, corporate—and dull

By Gene Wilburn

There's been a sea change in the world of Linux. A huge segment of the independent, free-wheeling world of Linux has morphed into the Starbucks-like world of corporate systems integration in Red Hat, Caldera, SuSE, and Turbo focus on the lucrative enterprise market. Oracle on Linux and Linux on mainframe sale high in their plans, as do corporate support contracts.

For desktop use, the distribution leaders are now clearly Mandrake. The distro that remains closest to the soul of Linux is Debian (though that is in danger of being compromised by Debian's Hewlett-Packard connections). For many, Slackware's straight-on, traditional Unix-based simplicity looks better all the time. Others have jumped ship to FreeBSD or Mac OS X. Everywhere you look, Linux culture is being transformed.

Another that turned corner the release



of version 7.3 from the 500-lb gorilla of distributions, Red Hat (www.redhat.com).

Red Hat 7.3 ships with Linux kernel 2.4.18. The only serious desktop gain from this kernel is support for USB 2.0. The server-side improvements are impressive: support for 802.11Q (VLAN), better SMP performance, support for SMART and other disk-monitoring utilities, DDM (logical volume management) support, support for drives greater than 137 GB, and support

for Creative Rocket Drive solid state disks.

One loss, if you have older equipment: pre-IDE via CD-ROM drives are no longer supported.

Despite its strong focus on the server side, Red Hat 7.3 remains a moderately balanced distribution, and while it doesn't offer the most up-to-date desktop features, it often breaks open KDE 3.0.0, for instance, introduces anti-alias font support and is the only Linux graphical desktop environment I've yet seen that isn't compromised by ugly fonts. The fonts in KDE3 look Windows-like, which should be taken as a high compliment by the KDE developers.

Red Hat has added CLIPS printer support in addition to the traditional LPRng. I've personally had better luck with CLIPS on Samba networks.

You can mix both printer support options, but each as configured in

Continued on page 81

Linux user groups in Canada



Don Ann LaBrec

Starting out with Linux can make even the most computer-professional want to give up. Learning Linux requires a whole new language if you've never used a Unix operating system before. The commands are different. The way files are handled is different. It's easy to feel like you've just stepped into the Twilight Zone.

The first place most folks turn for help is the Web. There are tons of Linux sites out there. Many aren't the best resource for the Linux beginner, unfortunately. There are also magazines, books, newsletters, etc.—just about everything you could want.

The problem is that what most of us really want when we're having a tough time with a computer is someone sitting right there next to us to give us a hand. You could always call the friend who introduced you to Linux in the first place.

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Jaguar price upsets many Mac faithful



While the recent Macworld Expo in New York was on the small side, it offered plenty of new product news to keep Mac users interested.

This year Apple's focus was on getting the word out about Mac OS X 10.1, codenamed "Jaguar," rather than its hardware.

More and more, the pattern seems to be that Apple saves the big hardware announcements for Macworld San Francisco in January or for special media events. Some people were disappointed there were no new G4 towers, but we know when they are coming so not to worry.

Apple also succeeded in angering a large percentage of the Mac faithful with a number of expensive new upgrades, but left satisfied with the good news and get

to the latter.

OS 10.1, new products, and rage

Apple chief Steve Jobs, dedicated almost half all his two-hour keynote address to Mac OS X 10.1 and related software. The upgrade, which Jobs refers to as Jaguar so we will too, is now officially scheduled to be released on Aug. 24 for US\$129 (about \$195 Canadian). The earlier than expected release date was good news but its price is none of a round bag.

While we feel that 10.1 is an amazing upgrade and the price is fair for all the development time Apple put into it, some hoped there would be a discount for those who bought OS X or 10.1—after all, it was those early adopters who made OS X a viable platform.

While the lack of an upgrade price may cause many early adopters to reconsider, we are reminded of the fact that Apple has never offered an upgrade price for a major release.

To go from Mac OS 8 to 8.5 or 8.5 to 9 you had to pay full price, so the lack of

an upgrade price for 10.1 is disappointing but not surprising.

Those who do upgrade will get a lot of bang for the buck—among the updated features in 10.1 are an updated Sherlock 3.0 with inline page rendering, Bluetooth support for Palm and cell phones, the AOL Instant Messenger-compatible Chat, an updated mail client with built in spam filter, and improved system performance.

Mac OS X 10.2 will also be required to use the two new "iApps" Jobs announced last fall.



The iCal app is a free calendaring pro-

gram that runs under Mac OS X only and complements the built in Address Book. It allows users to have multiple calendars on the same system, so an entire family can share one computer and each person have their own calendar file.

iSync, which requires OS 10.2 and iCal, will allow users to sync their iCal and Address book entries with iPods, cell phones, Palm devices, or another Macs. It's similar to Palm's HotSync Manager except it works with multiple devices.

Also unveiled was an updated iPod line, including price cuts for the 5 GB and 10 GB models, and a new 20 GB iPod. Apple has made a number of small tweaks to the design of the 10 and 20 GB models and has added some new accessories.

The other big news is that there is now a PC version of the iPod, which differs only in that it includes a 4-pin FireWire cable and is bundled with iTunes, rather than iTunes.

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* PLATFORM NEWS *

Linux user groups in Canada
 Continued from page 20.
 Too bad that Linux usually speaks a language that sounds suspiciously like English, but not quite.

Instead of pulling your hair out in frustration, consider an option you may not have even known existed. Join a Linux user group (LUG). There are around 15 LUGs in Canada alone, and they're located from Montreal to the Yukon, within just about every province and territory. You can get a complete listing at www.usc.ca/linux/uglist.html

LUGs serve many functions. First and foremost, they're a way to meet people who share a common interest. Some of these people are professionals who make use of Linux in their everyday work. They're great contacts for consulting if you want to make use of Linux in your business without having to learn every little bit for yourself. Others are hobbyists who've been using Linux for years on their own, and then there are folks who are just getting started.

Aside from just getting together, LUGs serve primarily as an educational venue. Next, if not all, LUGs have a speaker at each meeting. Sometimes this speaker is someone from outside, from a local company or from out of town, who talks about a product or their own particular interests. At other times the speakers are LUG members who are involved in a special project, or just have a favourite Linux tip or issue they'd like to cover. Just about everyone has something to share with the group, even if it's just a good question that others also want answered.

Some LUGs are quite small, with as few as five people typically showing up to meetings. If you're new to the group, folks will likely recognize you as such. It's a bit different in the larger LUGs. If you, you feel like just one of a sea of faces, introduce yourself to those around you, talk to one of the organizers, and keep attending the meetings. Participating in volunteer efforts also helps.

One of the most popular events in LUGs around the world are the Installfests. For these events you quote literally bring in a computer and often help you install Linux onto it. Whether you need a copy of a Linux distribution or not depends on the LUG and its resources, but often the groups will have many different versions of Linux.

If you don't want to show a machine to an Installfest, drag up anyway. It's a great chance to ask questions, chat with

Continued on page 64

Lower price alerts many Mac faithful
Continued from page 29



iTunes was also updated. Version 3.0 includes a SoundCheck feature that equalizes the volume so all songs play at the same level and "intelligent" play lists that use some new criteria. The new features are nice, but they seem more like iTunes 2.5 than 3.0. It barely winks though, because it's still a free download.

The last major part of the keynote centered on Apple's iTools, which have been renamed... iMac. This is where things got bad—precisely as free email for iMac.com email accounts will now be cut off on Sept. 30, unless of course you upgrade to the new iMac service for US\$99.95 per year (for existing iMac users, the first year is US\$49.95 and US\$99.95 per year after that).

To be fair, iMac does give users more than email. It brings up iDisk and email apps, adds a personal homepage, iVox antivirus software, and Apple personal backup software. The problem is, though, that many people don't want or need these extra features—they just want to keep using their iMac.com email account.

Many people, this columnist included, have switched to using iMac.com as their primary email for business and personal use, and changing it will be an enormous hassle—which, one assumes you're intentional if it's too much trouble to

change an email address, people may just pay up the nearly \$160 to keep things going for another year. It's seems a sort of a dirty move to pull on some of the most loyal customers, and it's not going over well so far in the Mac community.

Between paying \$200 for 10.4, and \$300 for a new Pro key if you want to upgrade to QuickTime Pro 6.0, Mac users are feeling a little drained already—another \$160 is just too much for some people. We feel there should be some sort of option whereby users could pay say US\$119 per year just keep their iMac.com email account.

If you feel the same way, we strongly recommend you check out the online petition at www.PeterOnline.com/104 and sign if you agree.

Well, that's it for the keynote, except for Jobs' famous "one more thing..."

So true that "one more thing..." was an impressive 17-inch widescreen iMac. The larger flat-panel screen will only be available on one model, which will be the new top-end-of-the-line iMac. The previous high-end 15-inch 800 MHz iMac drops in price from \$3,049 to \$2,949, with the new 17-inch version taking its place at a price of \$3,549. What do you get for the \$100 difference? The same 800 MHz iMac CPU, 256 MB RAM, and the amazing iMac burning SuperDrive, as well as a larger 80 GB hard drive and a much faster 32 MB nVidia GeForce 4MX video card.

The screen is the best part though, at 17 inches diagonal with a 16:10 aspect ratio. It has a maximum resolution of 1,440x900 pixels and an amazing 14 per cent more screen space than the 15-inch flat panel. It's also not much smaller than Apple's Cinema Display, which has a resolution of 1,600x1,024 and a price tag of \$3,299—\$700 more than this

newer 17-inch G4 iMac. Once again the iMac shows that it's an amazing value and the G4 Tower has some catching up to do.

However, all signs point to new towers in early August (just after TCP goes to press), when the cash back promo ends (Aug. 31), so expect to see updated G4 towers on Aug. 31, in some kind of special media event.

We also wouldn't be surprised to see the 15-inch Studio Display discontinued and a wider-screen 17-inch Studio Display added to the lineup. After all, you can't have the iMac updating the Pro iMac—it just wouldn't be right.

Photoshop Elements 2.0



Announced on the first day of Macworld, Adobe (www.adobe.com) Photoshop Elements 2.0 is a Photoshop 7.0 for the iPhoto crowd.

While iPhoto is great for importing, organizing, and sharing photos, it's not really designed for any serious editing work. Sure, you can crop, rotate, and adjust brightness in iPhoto, but for any real editing power you need to move up to something like Photoshop.

The problem there is that most iPhoto users don't need or couldn't figure out most of the advanced functions

Photoshop 7.0 offers.

Enter Photoshop Elements 2.0—a \$69.99 offer about 50 percent of Photoshop 7.0's functionality for about 15 percent of the price, and with an interface that the average user can understand. The big news is that Photoshop Elements 2.0 is both OS 9 and X native, so it will work regardless of which operating system you're using.

The previous version was not OS X native, which was a major drawback for many, especially since iPhoto runs only in OS X.

Photoshop Elements retails for US\$99 (roughly \$159), and will be available by the time you read this. If you bought a copy of version 1.0 after July 17, you will be able to upgrade at no charge—and call Adobe customer service.

Sonnet unveils new G4 upgrade

In June, Powerlogic announced the first 1 GHz upgrade for AGP G4 Towers and Cubes, which have started to ship, according to its announcement at Macworld. However, Powerlogic now has competition in the 1 GHz upgrade area from one of the oldest Mac CPU manufacturers around, Sonnet Technologies (www.sonnet.com).

Sonnet has announced both 800 MHz and 1 GHz upgrade cards for any AGP PowerMac or Cube. The Sonnet upgrades differ from the Powerlogic upgrades in that they both use the newest revision of the PowerPC G4 chip, the 7435. This chip has improved silicon performance over the older 7460 series chips, and Powerlogic only uses this chip in its 1 GHz upgrade, leaving the 800 MHz with the older and slightly less efficient 7430.

The Sonnet cards also use a 256KB on-chip, Level-2 cache, and 2 MB of

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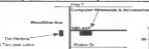
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Jaguar price sports many Mac faithful
Continued from page 82

Level-8 cache using DRAM memory. The PowerMacs use only 1 MB of Level-3 using regular cache RAM. The result is that the PowerMac cards contain twice the cache running at roughly twice the speed.

For this improvement you would expect to pay a premium, but the Sonnet cards' suggested retail is actually US\$100 less than PowerMacs, at US\$499 for the 800 MHz and US\$599 for the 1 GHz. There is also a version of the 800 MHz card that will run in older 7600/8000 series PCI PowerMacs that retails for only US\$399. However, since those older Macs only have a 50 MHz bus, the performance will not be as great as on a newer 100 MHz bus AGP Mac.

Sonnet also retains the only company offering a dual-500 MHz upgrade to G4 users, since its US\$599. The dual-500 MHz card uses older G4 chips though, so for video compression and other stereo-accelerated applications, the new 1 GHz CPU would be faster, even though the combined clock speeds of the cards are similar.

Microsoft ships Palm OS compatibles... and there was much rejoicing

When Mac OS X was released in March 2000, there was no way to sync a Palm with your Mac without resorting to the Classic OS. The reason, at the time, was that parts of the system needed to be updated before a proper HotSync Manager could be implemented.

With the release of 10.1 in September 2001, the OS reached a level where HotSync could be implemented, but it wasn't until Microsoft's San Francisco in January 2002 that Palm actually released a version of OS X.

Now, six months later, Encourage users can sync their Palm with their favorite email app. The Encourage.com site uses the Palm Conduit Manager to run, but instead of syncing with Palm Desktop it syncs the address, calendar, to do lists, and memo notes with Encourage.

The conduit is free and requires that you upgrade to Service Release 1 of Office Mac v.X (www.microsoft.com/retail/download/). The conduit will work with any device that is supported by Palm Desktop 4 on the Mac, so all Palm and Handspring units are supported. Sony

Claris are more a mixed bag. Many of the Claris running Palm OS 4.0 will work, but the new N800 and N800V models, for example, will not.

The solution is to install the Missing Sync software available online (www.sync.com/missingync.html). You can then sync any Clis with a Mac. We ran the conduit on several Macs with different Palm devices and had mostly positive results. On one Mac everything worked seamlessly and we couldn't be happier. On a PowerBook with a Viper Edge everything worked except for the Desktop, where it kept destroying post events.

At press time we noted that Microsoft had temporarily pulled the update to investigate incidental problems reported by customers, so by the time you read this it should be available again and hopefully with the bugs worked out. A working Palm conduit increases the value of the Office Mac v.X greatly in our opinion, and that's important since the sale retails for \$750.

John Semens is a Mac IT specialist based in Vancouver, B.C. He can be reached at john@mac.com (or now).

Linux user groups in Canada
Continued from page 82

people, watch Linux installations on various machines, and even select which Linux distribution you want to try.

Other common LUG functions involve working in tandem with local computer conferences to provide Linux booths, gatherings with other technical groups in the area, and advocacy in the business, government, and education communities. There is an amazing amount happening with Linux around the world and right here in Canada.

Don't be intimidated at the thought of attending a LUG meeting. If there's one thing Linux enthusiasts like to do, it's talk about Linux. Go to a meeting, drop by a LUG booth at a local computer show, and chat with the folks there. You might learn about cool things happening in your community. You'll probably learn something new about computers, and most of all, you'll have a chance to have some fun with friendly, enthusiastic people. ☐

Don Allen (allen) has written more than 200 print articles, many articles, and taught dozens mostly involving Linux and its programs. You can reach him at don@rossos.com.

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Jaguar roars in

New Mac OS X update to include server version

NOW HERE—The latest version of Mac OS X, code-named "Jaguar," is now officially released as Mac OS 10.2. According to Apple, it introduces more than 150 "major" features, including Quartz Extreme 6.0, improved Windows support (PDF, SVG browsing, and Active Directory) and a multi-threaded Finder, reputed to be considerably faster than the current version. Other new features include spring-loaded folders, an "Integrated search" box at the top of all Finder windows, plus "universal access" improvements.



Sherlock changing

Adding a stripped-down search function to all Finder windows, Free Sherlock, Apple's search engine, is up to evolve into a Web services client. Taking a page from the shareware utility Watson, Apple has rewritten Sherlock 3.0 to evolve its client into Internet services. Apple chief, Steve Jobs, calls it "Internet services for the rest of us."

Using XML-based services will allow Sherlock to become a client for a variety of online services, such as FedEx package tracking, TV listings, airline reservation systems, stock quotes, movie schedules, eBay auction client, image finder, virtual Yellow Pages, and more. Most of these services are available as HTML Web-based services already, but can become more interactive and user friendly using the Web services model.

Price hard to beat/avoid

OS 10.2 costs US\$129. It seems the only price break will be for those who buy a

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New Motorola phones for tech and style savvy

By Geol Wheelwright



Motorola (www.motorola.ca) wants Canada to know that it's back in the mobile phone market on a big way. After a number of years in which a certain company from Scandinavia eclipsed the wireless communications pioneer Motorola Canada president, Frank Marx, says his company has regained the top spot for mobile phone sales in Canada.

And this summer, the company is rolling out a number of slick, innovative new handsets that it admits are just as much about fashion as they are about communications or technology. Probably the most striking of these is the new Motorola V70, which is available exclusively in Canada through Rogers AT&T Wireless.

Motorola says the V70 "reminds an entirely new design category for wireless handsets with its rotating cover and circular display." And that's true, the V70 does not follow any of the existing mobile phone design rules—although it is also true that the rifty rotating cover design it embraces does not appear to have come from any organic user demand other than to produce phones that look cool and can do lots of new things. Oh, and I guess it also needs to be able to still make phone calls as well.

In design terms, the V70 isn't just about the handset cover. The Motorola V70's distinctive look is also evidenced by the use of a blue electro-luminescent (EL) Motorola (translucent) housing—and a black screen display with white-style fonts. And, an interchangeable display bezel allows users to truly make the phone their own (in the same way that phones from "that other company" allow users to add individualized phone covers and back).

The V70 provides all the mobile phone functionality you'd expect—making calls, sending and receiving text messages, playing games, accessing the wireless Internet with the built-in browser—or connect it to a PC to synchronize (or to allow the PC access the Internet).

The V70 is designed to allow you to connect your stylish choice to the rest of the world at higher speeds than traditionally possible through a mobile phone. It is

a GSM/GPRS wireless phone that offers "always-on" access to advanced wireless services and applications operating on the Rogers AT&T Wireless Integrated voice-and-data digital wireless network. Using a GSM/GPRS network eliminates the need for dial-up, providing you with higher-speed wireless data service for sending and receiving Web-based information and email. This handset is currently available from \$499 (depending on what network package you sign up for when you buy it).

Motorola Canada also showed several handsets for which it is currently negotiating distribution agreements, including the tiny Motorola C130 series, which is also aimed very much at the style-conscious market (although at a less expensive price).

The C130 series handsets provide a number of internal and external personalization options, including customizable front and back covers, downloadable "themes" of screensavers, wallpaper, and icons, and the ability to compose one-of-a-kind "ring tones" that play true musical chords.

Although no pricing has been announced in Canada yet, it sells in the United States for less than US\$125.

In Motorola's traditional "big phone" sweet spot, the company will soon drop the Motorola T720, a clamshell-style handset that features a brightly backlit 4,096-colour icon-driven display and a set of bundled applications to support handheld gaming and Internet access. The latter is useful given that the phone will be offered in versions that can be used on either the GPRS network (offered in Canada by Rogers and Nortel) and the CDMA ISMT network (being offered by Bell Canada and Telus Mobility).

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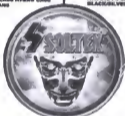
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Adding meaning to the Web W3C projects aims to make Web machine-understandable

By Robert Wierbe

In the late '70s, futurists predicted that eventually every car would sport a citizens band (CB) antenna and every pedestrian a walkie talkie. Today, CB radio equipment is a minor novelty in Radio Shack stores, a far cry from its former glory. But CB did prove the lure of anywhere, anytime communication and foreshadowed the proliferation of the cellular phone, which does more and does it better.

Just as the cellular phone has more or less replaced CB radio, new technology will probably replace the World Wide Web as we know it. One of the group's hard at work on technologies to reshape the Web is the organization created to guide its development and standards, the World Wide Web Consortium (W3C, at www.w3.org).

One of the consortium's purposes: the W3C's goals and operating procedures is the Semantic Web ("semantic" means relating to meaning). The organiza-



tion is heralding the Semantic Web as a new form of Web content that is meaningful to machines as well as people, which will unleash a wealth of new possibilities.

Searching and searching

Presently a Web page is created so that a person with a browser can read it over the Internet. Search engines comb through all this content and create data-

bases that enable users to find some sites containing words of interest. But in many cases, users still need to sort through search results to find what they are looking for, or drill down into a site to find the specific information they need. The current Web is machine-readable but not machine-understandable.

A goal of the Semantic Web Project is to automate this searching process so that software on any machine can scan the Net unattended and come back with accurate and useful information, because it understands what it is seeing.

Tim Berners-Lee, a researcher at the Massachusetts Institute of Technology Laboratory for Computer Science, invented the Web in 1990 and is the director of the W3C. From the very beginning, he says, he intended the universal adoption of accurate and useful metadata that would enable more accurate searching and automated agents.

Continued on page 28

Warning your own Web site

Mozilla CSS extensions: Part 1


By Keith Schengill-Raberts

In the past few articles on this topic, we've looked at the numerous extensions properties Mozilla has added to successive versions of Internet Explorer. In this article, we'll look at some of the Cascading Style Sheet (CSS) extensions that have been added to Mozilla and its "fork," Netscape 6.0 and the forthcoming Netscape 7.0.

First, a bit of background about Mozilla: it is the open-source offshoot of Netscape. Back in February 1998, Netscape Corp. decided to release the source code for its browser for free, with the idea of opening up development efforts. The open-source software development is also a way to harness the contributions of many hundreds or thousands of outside programmers to add features, find and fix bugs, and make the program more robust and flexible. It is the method of development that led to the creation of the Linux operating system.

Netscape Corp. sponsored Mozilla's

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Adding meaning to the Web

Continued from page 85

security features would allow me to pay for my tickets, after reading the reviews presented by the agent, and the expense would be automatically recorded in my accounting program.

Berners-Lee says that because of these built-in security features, the Semantic Web binds itself extremely well to collaboration. Security will come in part through the use of digital signatures, which are encrypted blocks of data that

computers and agents can use to verify that the attached information is genuine.

"You want to be quite sure that a statement sent to your accounting program that you owe money to an online retailer is not a forgery generated by the computer-savvy teenager next door," said Berners-Lee in his description of the Semantic Web.

Collaboration might take the form of agents working together and sharing information to further narrow the

results. For example, if I decided that I wanted to see a movie with a friend, we could coordinate our agents to offer mutually acceptable choices at a mutually convenient location, near a favorite coffee shop. The results might even include the appropriate public transit information to get us there in time.

It is already possible for users to find all the information on the above example with a little time and patience. If artificial intelligence could be built into the query method, it might narrow the field,

but this requires a degree of sophistication not yet widely available. With semantic markup, this level of sophistication wouldn't be required.

How much of today's Web looks like the future? Nobody is completely sure. But there is a huge effort underway to ensure that it will be at least as significant an evolution as that from CD-ROMs to cell phones. □

Robert Weide (rweide@hotmail.com) is based in Natick, MA.

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Is true compatibility achievable?

By Marvin D. Silbert

Compatibility is probably the next most overused term in computer jargon after user friendly. In reality, compatibility is a Utopian dream. If you believe in it, you will be frustrated over and over again when you find that it isn't there. Look at it as being a myth and you will be happy every now and again when it actually works in your favor. Most hardware manufacturers and software developers claim their products are compatible with almost any other hardware or software that you can name. As many of us have learned the hard way, that may be stretching the truth.

Compatibility likely became an issue once the world had two computers. I had my first brush with it in the early 1960s. I had written a FORTRAN program and needed a printout with some new data a few months later. I punched the extra cards and left the deck in the inbox. Back came six pages of overflow. It seems that the latest version of the computer allocated spacing differently than the old one and John's five me old Fortranian

The first program I purchased was Corel WordPerfect 4.3. It was a great program and before long I had noticed a combination of printer instructions that allowed me to use my printer exactly the way I wanted. That same WordPerfect 5.0 and all that customisation was gone. I had to reformat all my old documents or produce a lot of weird looking text. The macros I learned to write for 4.3 didn't work with 5.0 and a few years later my 5.0 macros didn't

Most manufacturers and developers claim their products are compatible with almost any other you can name. As many of us have learned the hard way, that may be stretching the truth.



work with 5.0 and then with 7.0. I had my best system running with 7.0, and those macros would actually work with 8.0, 9.0, and 10.0, if WordPerfect could find them. Someone at Corel had the bright idea of moving all the file locations to different subdirectories.

Over the last few years, WordPerfect has lost market share to Word, which claims to be compatible with a whole string of word processors including WordPerfect. A document with minimal formatting can indeed jump back and forth between the two. Add a few bold

and links and that compatibility may still hold. Continue adding complexity with headers and footers or a line tables and some embedded graphics and that compatibility is gone. Word and WordPerfect won't run each other's macros and you can never be sure how much success you will have when you try to move a complex document between them. It's often safer to remove all the formatting and start over.

The transition from Lotus to Excel can give similar problems. The calculations may be the same, but the graphs

are not. Each was able to run *Levin* macros for many years, but not with the latest versions.

PowerPoint 97 claimed that it could read Lotus Freelance Graphics if the picture saved in the version 2.0 PBE format. I tried that with a set of 65 slides I was taking to a conference. It read the first and left the others. PowerPoint 2000 and XP almost do it, but need some small fix-ups to overcome some features such as rotated text.

Incompatibilities also occur with hardware. When I got a second desktop, I thought my old 14.4Kbps modem could at least send a fax or dial a telephone. I tried, but what may once have been a top-of-the-line modem, was now scrap.

While not all hardware/software that runs under Windows 95 seemed to continue running with 98 and Me, that didn't mean it couldn't go on forever. Much of our favorite and trusted hardware/software at just no longer compatible when you move to XP. IBM had no drivers for the IBM ScriptPac mouse. It's just another generic mouse. WordPerfect 7.0 will not operate under XP. My Sony monitor and Motorola modem are recognized only as a generic monitor and modem. Forget about buying an older printer today if you have Windows 95, as most use the USB port and need Windows 98 or higher.

How do you get around all these incompatibilities? Market forces have done the first cut for us. Lotus 1-2-3 and WordPerfect are essentially history today and people have blown a fortune on

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DIY stationery • Microsoft Office's email client, Outlook, comes with built-in stationery you can use as is or modify by adding a company logo or other images. To do this, choose **Tools, Options, Mail Format tab**, then select **Stationery Picker**. Click **New** and type in a name for your stationery. Click the **Start With Blank Stationery** option and click **Next**. Choose a font and background image and click **OK** twice. Now, select it from the **Use This Stationery By Default** dropdown list and it will appear for all the new messages you create.

DIY stationery No. 2 • It's also possible to create stationery in the free email client, Outlook Express, that can be used in Outlook. Why would you want to do that? The Outlook Express stationery creator tool offers more options with more professional results. Open Outlook Express and choose **Tools, Options, Appearance**, then select **Create New**. The **Stationery Wizard** steps you through the process of design-

ing new stationery and allows you to control the margins, background color, images, and more. When you're done, return to Outlook and choose your new stationery from Outlook's Stationery list.

Verify your stationery • For special occasions, you can use one of the pre-built designs provided in Outlook. To find them, click on your Inbox, then choose **Actions, New Mail Message Using...** and click the **New Stationery** option. Choose an option from the list and click **OK** to begin composing your message. Choose the **Get New Stationery** button to download more options from Microsoft.

Add images • When you want to share images with friends and family, add them to your email. To do this, type your message using the HTML format (select this from the **Format menu** in the **New Message dialog**), then choose **Format**. Check that the **Send Pictures from the Internet** option is selected (if not, click on it to

enable it). Choose **Insert, Picture**, then click **Browse** to find the image on your disk. From the **Alignment** options, choose **Left** or **Right** so your text wraps around the image, and click **OK**. You can now type the remainder of your message and click **Send** to finish.

Add signatures • An email signature allows you to add text and images to the foot of all your outgoing email messages, so you don't have to retype contact details every time. To create a signature, choose **Tools, Options, Mail Format tab**, click on **Signature Prefs**, then **New**. Type a name for your signature, choose **Start with a blank signature**, and click **Next**. Type your signature in the text area and format it. Click **OK** twice and choose your new signature from the **Use This Signature By Default** dropdown list. Click **OK** to confirm. It will appear on all new messages. If you dislike the **Don't Use When Replying** or **Forwarding** options, it will also be attached to replies and forwarded messages.

Setting the priority • Outlook allows you to alter the priority of a message, but this has no effect on how fast it gets to its destination. If merely flagging the message as having a priority when it is received, to indicate a message is important, open a **New Message** window, and click the red exclamation mark on the toolbar to set it as high priority. Depending on the software recipients of your messages use, they'll see some indication that it's a priority. Be sure to use this option only when a message really is urgent (if you use it all the time, recipients will begin to doubt the importance of your message).

Quick email • If you're browsing with Internet Explorer and need to quickly send an email, click the **Mail** button (which has an envelope on it) and choose **New Message** from the menu. Outlook's **New Message** window will open. Type your email, click **Send**, then return to Internet Explorer to continue browsing.

—Robert Bradley

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Kicking an eye on cybercrime

Continued from page 180

ter security, and perhaps do damage to their computer systems. I test the integrity of their firewalls, of their IDS systems [intrusion detection systems], and see whether or not there are any holes that haven't been plugged so they can have a more secure feeling that they are in fact protected from the outside.

Threat risk assessments, security assessments—generally you're taking a bit of a different focus. You're going from the inside of an organization, so they're allowing you to have some critical information. Again, [I'm] evaluating it from a risk perspective in a lot of cases—what actually is the risk to the assets or the things that are important to the company—and then writing up recommendations and suggestions on how the company might improve security.

Policies and procedures—one of the biggest problems with many organizations in today's environment is that companies don't have proper IT policies and procedures with regard to the way they do business in their organizations. An individual like me would come in

and review the company's current policies, or in many cases I actually craft them from the ground up and set best practices as to how the company wants to operate within the culture of the

It gets frustrating that a lot of organizations don't adhere to best practices. At the same time, I'm totally appreciative of the fact that when it comes to security, what you're talking about is risk management.

company, of course.

It's not easy in a lot of cases to just throw down a bunch of policies and have people actually adhere to them. You have to marry the policies to the actual culture of the company. If you've got a dot com company that's a startup and you have a lot of bright people that need remote access, it might be a little bit more difficult to have a really restrictive

policy and procedure in place—at least in the infancy stage. However, if you're dealing with government agencies, research and development companies, those type of institutions, obviously policies and procedures play a much larger part in their daily operations.

Finally, in computer forensics—once again, you go across the whole spectrum depending again upon the client. Computer forensics basically deals with the extraction of information or data from computer systems to help support either a plaintiff's or a defendant's case in civil proceedings, or in some cases criminal proceedings.

Often I'll get called in to help various law-enforcement agencies as well. And within that environment, basically what you're doing is using investigative [and] technical techniques to get and extract data that may be critical to either party.

So what do you like best about your work?

The best part I like about my work is the variety and diversity of the engagements that I get involved in. One week I can be doing penetration testing, the next week I can be doing threat risk

assessment within an organization... Of course, the range of engagements ranges from small companies, medium-sized, to very large companies, to companies that take security very seriously, to companies that are basically in their embryonic stage and just want to get better at it.

What do you like least?

Truthfully, I love what I do. I really can't be too negatively negative about it. Obviously, as a security practitioner you would like more people to practice best practices, it gets frustrating that a lot of organizations don't adhere to best practices. At the same time, I'm totally appreciative of the fact that really, when it comes to security, what you're talking about is risk management. And, especially in these economic times, everything has dollars associated to it, so security is no different. It has to be cost effective to the organization and meet its requirements to be a viable solution.

What would you consider to be the most important skills or qualities that someone

Continued on page 181

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Keeping an eye on cyberspace

Continued from page A31

would need to do your job?

As a consultant, I think basically the number one skill obviously is communication. You need to be able to speak with your clients [and] manage expectations so people know exactly what can be done within these circumstances.

The second, very critical characteristic is that you have to have very good listening skills. The information that you require that you're asking your client—emphasis on, is often obtained from the client.

Thirdly, you have to understand your domain of expertise very well, understand what exactly are the security principles that you're supposed to be adhering to, for penetration testing and the other IT-related engagements. For computer forensics, having not only the investigative skills but the technical skills to do the job as well [as required]. You have to know computer systems, operating systems, computer networks, telecommunications protocols. So it's really a very wide range of skill sets.

And how do you acquire that sort of expertise?

Well, it's one of those things where time is definitely a beneficiary. I've been doing this for a very long time. I started out in computer back in 1980, so I'm definitely a veteran in that regard. And it's an accumulation—I've taken a lot of courses. I've taken courses through BCIT from a programming perspective

From a security perspective, I've obtained some professional designations. And on-the-job learning is well.

You're always keeping up to date on recent exploits, recent methodologies for breaking into computer systems, techniques and methodologies to secure environments. That ranges from everything from conferences, courses, lectures, and reading books, of course.

What are the bigger challenges you would expect to face in your position over the next few years?

From an e-commerce perspective, obviously there's huge impediments right now to things going forward because the general public has a perception that security on the Internet isn't very good. Recent events—Web [site] defacements, credit card [numbers] being stolen from databases—although those are sensationalized incidents, the average person feels that computer security is very poor.

One of the areas that we as security professionals live is an education problem—having people understand that is a lot of cases the technology is very secure, particularly if it's implemented and maintained properly. That would be the number one impediment I could see.

What is your favorite thing to do in your spare time?

I love spending time with my family. I love the outdoors. I ride bicycles, I go fishing. I like to go horseback riding—just your normal activities. □

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A degree in computer crime investigation

Security-based British Columbia Institute of Technology (BCIT) has launched what it claims is a Canada first, a degree-computer program in forensic investigation (subscience/technology).

The program is part-time, offering two years (60 credits) of upper level course work to students who have a post-secondary diploma or equivalent studies in a relevant discipline (flow of the program coordinates). This Yes, says the final judgement of relevance is up to the head of the program, but many students have a background in law enforcement, accounting or computer related disciplines like network administration and programming. Entering students must also have at least six months work experience in a related field, and must acquire two years of related work experience before graduating.

The bachelor of technology program is divided into two streams: the forensic science option covers crime investigation, including pathology, drug analysis, fingerprint identification and DNA typing, the economic and computer crime option focuses on areas such as forensic accounting, insurance fraud, computer security, encryption, and using the Internet for investigating.

For more information about careers in computer security and forensics, visit the Web site for the International Association of Computer Investigative Specialists (www.iacis.org) and the International Information Systems Security Certifications Consortium (www.i3sec.org).

—Sharon Myers

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< CAREERS & TRAINING >

Guide to Solaris console tools falls short



from its Solaris material.)

This book does provide a decent tour of the GUI-based console tools, and will be enough to get a junior administrator up and running. It covers all of the key tasks supported by the new Solaris Management Console 2.0, including such things as administering users, file systems, mail systems, internet connectivity, and more.

The very introductory approach of the book gives you a taste for the power behind the tools, but lacks a real-world perspective. It emphasizes setup and administration, and offers very little information on what to do when things go wrong. One of the drawbacks of this book is that it doesn't cover installation of the OS, so while the book is aimed at a junior sysadmin, a more senior sysadmin would have to be around to get things set up.

A seasoned sysadmin won't get much out of this book, and likely won't be sold on the advantages of using the GUI-based tools over the command-line alternatives.

It's OK for an aspiring junior Solaris sysadmin. However, this is a rushed subject matter, so the laws of supply and demand come into effect here to explain the \$22.99 price tag [owl].

When reviewing it, I couldn't help but think that the first book on any given computer subject is often the weakest. The next title on this topic can only be better. □

The reviewer would like to thank certified Solaris system Peter Linder for his technical insight on this title.

Is true compatibility achievable?

Continued from page 58

upgrades, many of which are not fully compatible with the versions they have replaced. The incompatibilities between XP and pre-XP are more difficult to overcome.

You will have to bite the bullet and prepare for a major move that can read old modes, modes and software to the song heap—but wait, isn't that about that move. I had a computer operating under Windows. Me and took another option I went through the pages of The Computer Paper and found a great deal on a replacement computer to run

XP. Any realistic cost-benefit analysis, that values my time, says this was a bargain. I can continue using all my old hardware/software as I did before on the old system and have started to load anything new or any of the old that a XP computer on the new one.

I have the best of both worlds, especially after I networked this home server through my SMC 7064NBR DSL router. □

Steven Silver is a therapist who provides training and consulting services for industrial water treatment applications. As a hobby, he is a computer review editor of Canadian Chemical News.



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Consumed by electronics

Problems in search of solutions at Macworld New York

By Douglas Alder

NEW YORK—Over the last five years, I have been to most of the Macworld Expos (San Francisco in January and New York in July). This year, the New York show was noticeably smaller. Adobe and Macromedia were two of the largest no-shows, but the list included many other smaller companies. Many companies that in the past had large booths scaled down to the minimum 10x10 ft. setup. Others that were previously in the ground show floor area were hidden away in the cheaper special Internet Area portions this year.

This downsizing is not limited to the Mac universe. Outside the Jervis Center, where the show was held, a large sign encouraged exhibitors to book booths at Caesars Las Vegas in November. The message was something to the effect that things were turning around, and that they should be there to reap the benefits.

The New York show is usually smaller than the San Francisco Expo. New York is a more expensive place to hold a show for many computer companies based in Silicon Valley, near San Francisco. Having a presence at Macworld New York means flying staff in and booking them into expensive New York hotels.

This year, I took along a folding bicycle (www.standbikes.com) and discovered that Manhattan has a great bike path (the Hudson River Greenway) running along the water's edge on the West side of the long this island. This makes getting around in New York a real pleasure. Using the bike path, you can make it to most places faster than riding in a taxi or taking the subway and you get a bit of fresh air along the way. Riding in traffic is a little hairy, but you can get used to the maniac driving style of the New York cabbies. Just assume they will cut you off and you should be OK.

I usually wonder the floor looking for interesting new products, as well as solutions for particular issues I have encountered. This year, two items on my wish

list were a way to get a box of photographs scanned into my computer with as little fuss as possible and a good video export solution for VHS tapes.

Scans of memories

My search for a way to batch import photographs into a digital format came up short. The press release from SmartDisk Corp. (www.smartdisk.com) sounded promising. It offered an inexpensive film scanner for importing negatives into a digital format. The company mailed two SmartDisk scanner modules, the 2700 (USB only) and the 3600 (FireWire and USB). Though interesting, it came up short for my needs. It was not capable of importing large numbers of photos relatively unattended.

Vendors in the Hewlett-Packard Canon, and Epson booths were sympathetic to my quest. At least one told his company was working on such a product, but that handling photos through any document feeder presented real problems for the engineers because the original can't be bent or crumpled. He felt I wouldn't have to wait too long for a solution in this area, though.

Video tools

My next quest was for something to digitize my VHS tapes. My Canon miniDV FireWire camera has spoken me because it makes importing video so easy. Unfortunately, I purchased a model that lacked video-in capabilities. In the past, I have avoided the very low end USB-based video digitizing devices—such as EasyCap Labs' (www.easycap.com) MyTV or the InterView USB from XLR8 (www.xlr8.com)—that sell in the \$400 range. In most cases, the quality is very low and they capture at half-screen size at best.

At a previous show, I had purchased a Forensic (www.forensic.com) FireTV PCI card that promised better capture speeds. Unfortunately, it didn't work that well, producing very grainy and stuttering video. As well, the company has yet to

shop an OS X driver for the card. Pinnacle also sells a higher-end hardware box with FireWire input called Studio DV/DVTV. An expensive recording solution, but it will fit 1155399, which is out of my budget for home projects. On the Macworld Expo show floor, I saw two new products that might be worth a close look.

AD8 Technologies (www.ad8tech.com) announced a new real-time DVD video capture device, USB Instant DVD for Mac. The box will encode video into MPEG-2, the file format used on DVDs, then send it to the Mac using the relatively slow USB link. While the cost is expensive (the price of US\$649 will put it out of most consumers' budgets), the package also includes software from Pinnacle for simple creation of DVDs. Users can also use the DVD format on CDs for smaller projects if they lack a DVD burner. The product is scheduled to be available in October.

El Gato Software LLC (www.elgato.com) announced EyeTV Digital Video Recorder, a hardware/software product for Mac that offers personal video recorder (PVR) capabilities similar to

those offered by TiVo. Because it imports video from the Mac via USB, it records to MPEG-1 rather than the TiVo's MPEG-2 quality video. The show demo seemed



to flow smoothly, unlike other low-priced USB video digitizers. In addition to a TV tuner and video digitizer, the package includes software to schedule video recording on different channels, an online program guide, and the ability to record to video CDs or DVDs on Macs with SuperDrives.

According to the company, each hour of video consumes roughly 600 MB of disk space. The best feature of EyeTV relative to a TiVo is the lack of a monthly fee for TV scheduling automation. EyeTV pulls its information from the free TiVoTV (www.tivo.com) Web site. EyeTV sells for US\$180 and requires Mac OS X 10.1.3 or higher.

Other products and press releases that caught my eye at the show:

Business

- Microsoft's** (www.microsoft.com) booth was quiet this year as many customers have either upgraded to, or have seen the features of Office Mac v.11. The company did, however, announce both a PalmOS port for Entourage, as well as Outlook Express 5.0.5, the email and news client for Mac OS 8.1 to 9.x. The new version includes support for MSN Web mail accounts and resolves known security vulnerabilities in previous versions of Outlook Express 5.0.
- Apple's subsidiary FileMaker** (www.filemaker.com) was on hand to demonstrate a new version of its flagship database application, FileMaker Pro 6.0. The upgrade boasts XML import and export, Windows XP support, redesigned templates, and improved graphics and file import and find features. It also has a new format parser tool, allowing developers to quickly apply style changes to fields and field contents.

- As a former publisher**, a small booth caught my eye, offering a program called PubPro X3 (www.pubpro.com), a FileMaker-based publication management software package. The solution can be purchased as a standalone or as a multi-user solution or as an unrelated solution for publishers who want to be able to modify it. Pricing starts at US\$399.
- New Up-to-Date & Contact for Windows** was announced by the



Junior On Software. The new offering lets Mac and Windows users share contact makers across the enterprise. The company also announced the formation of a new division called New Software (www.newsoftware.com), which will focus

Continued on page 108

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NEW & NOTABLE

Conceived by electronics

Continued from page 137

exclusively on scheduling and contact management products.

- Toronto-based MarketCircle (www.marketcircle.com) DayLife Group Edition is a contact manager and customer relationship manager application for OS X. It tracks the sales cycle as well as a variety of contact data. The program is networkable and is priced at US\$135 per seat.

QuickTime, graphics and multimedia

- Winnipeg-based developer cZedix (www.czedix.com) previewed a new QuickTime editor called cZedixQT3—a cross-platform QuickTime-authoring and animation environment for creating interactive online content. Users can combine video, graphics, animation, sound, virtual reality, and text for interactive presentations, and the Web. The program has features similar to Vancouver-based Totality Har Software's (www.totalityhar.com) LiveStage Pro, although it seems to be targeting lower-end, drag-and-drop style editing, whereas LiveStage is a full development environment complete with scripting language cZedixQT3 ships in the fall, and is expected to cost US\$123.

- Another cool QuickTime-based product was VideoCat (www.video.cat). The US\$40 product allows media developers to add moving hot spots to a Web movie. The demo I was given had the presenter adding a hot spot to a character in a cartoon video. The software allows a tweening function, so the developer can add a few keyframes to the video and have the hot spot extrapolated between the points, giving viewers a clickable hotspot.

- AXELore and AXELedge 1.5 (www.axelore.com) for Mac are 3D content authoring tools enabling Mac designers and artists to model, animate, import, preview, and publish interactive 3D content to the Web. In the demo I observed, the program appeared to allow users to add many complex features to 3D models without having to code. AXELore is the intro product at US\$199, and AXELedge is the professional version at US\$999. New features on these products include the ability to publish to QuickTime 6.0 and Flash MX.

- LAJ Design's (www.lajdesign.com)

Quick Web Albums is a popular



priority that creates indexed HTML Web photo galleries from collections of JPEG, GIF, PNG, PCX, or PMP images. It runs on Mac OS 8 through X. The new version, 2.3, adds image compression options, and the ability to include video clips in Web albums. It's available online for US\$3.

- SketchUp by @Last Software (www.sketchup.com) is a 3D architectural sketching application recently ported from Windows to Mac OS X. Designed for architects, it appears to bring an intuitive tool set to art and engineering applications. Tool features include easy sketching, erasing, and constrains of 3D objects as well as shadow mapping of lighting. It costs US\$495.
- Apple's iPhoto is a great application for managing digital photos, but if you want more features take a look at iPhoto Media Pro (www.iphoto-media.com). It's like a big brother to iPhoto that does pretty much everything iPhoto does in addition to importing more than 120 popular image formats, including PDF; QuickTime movies, HTML, and various 3D formats. One of the cooler features that I saw demonstrated was its slideshow capabilities, which far exceed those of iPhoto. Its HTML export is also more flexible than iPhoto's. The beta version is US\$90, and the download version US\$60.

- Though it was hard to hear amid the cacophony of the show floor, IRL's (www.irl.com) new Create three-piece speaker system was quite stylish. It includes two desktop speakers and a subwoofer, and unusual "capacitive touch" volume control buttons on the right satellite. It's available in metallic, white, or blue, and will retail for about US\$299.
- The long-delayed Real Player for OS X was unveiled during the Apple event. Steve Jobs' keynote address, Real Networks' (@apple) Rob Glaser, who joined Jobs during the address, underscored the availability of a Real Player beta for OS X. He said that the Mac's G4 Always processor provides "smoother playback than any platform anywhere in the world." □

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■ NEW & NOTABLE ■

Jaguar roars in
Continued from page 85

new Mac, or a retail copy of OS 10.1 between now and the time the new OS ships. They will receive a coupon allowing them to purchase it for US\$19.95 until Oct. 31. Everyone else pays in full. Jaws, even the salesmen described it as "less than a dollar for every major feature in it."

OS 10.2 Server

Though it was neglected in the keynote, Apple also announced via press release a new version of the OS X Server operating system, featuring more than 50 new features and network management tools. Apple claims that Jaguar Server is the world's easiest-to-manage UNIX-based server software.

It will be featured on Apple's Xserve rackmount server. Jaguar Server key features include:

- **Network** for booting multiple Mac systems from the network instead of their local disk drives.
- **Network Install** to automate installation of software over the network

- **Workgroup Manager**, a new management console that works with any LDAPv3 directory server to provide centralized management of users, groups, and computers
- **Open Directory**, an easy-to-setup LDAPv3 directory server with a secure built-in password server
- **QuickTime Streaming Server 4** and **QuickTime Broadcaster**, which captures and encodes QuickTime content in MPEG-4 for live Web streaming
- **Improved file and print services** including support for quotas, secure file transfers, and NFS reducing via AFP
- **Improved Web services** including support for SOAP, XML-RPC, server optimized Java VM, SSL, and Java Servlets
- **Remote server management**, including the new Server Status tool and support for SSH

Mac OS 10.2 Server is scheduled to be available Aug. 24 for \$51499, and US\$599 for the Unlimited Client Edition.

—Dougla Alder

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• NEW & NOTABLE •

WHAT'S NEW

Continued from page 76

runs very quietly. The Flyfan has a five-inch 10-inch gasket and easily fits into a notebook bag.



The Flyfan has a suggested retail price of US\$24.99 and comes with a one-year unlimited warranty.

Other flyweight designs from Kensington include the FlyLight, a compact light that also plugs into the USB port on a notebook PC.

Kensington Technology Group (www.kensington.com) has released two new peripherals that add extra USB ports to a notebook PC.

The first device, the PocketHub, is the size of a matchbox (5.5x3x1 cm or 2.1x1x1.4 in.) and adds four more USB ports to the system it is plugged into. It comes with a mini AC adapter, but can be used without it—drawing power from the PC—depending on the requirements of peripherals connected to it.

The other device, the Pocket KeyPad, is a standard 17-key number pad that includes two ports for plugging additional USB devices. It has a number lock key that allows the Pocket KeyPad and laptop to operate as separate units, according to Kensington. The device measures 12x6x1.5 cm (4.7x2.4x0.6 in.) and weighs less than 20g (0.7 oz.).

The PocketHub and Pocket KeyPad have an estimated price of US\$16-66 each and include a five-year unlimited warranty.

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Unleashed gets under hood of Mac OS X
Continued from page 100

This title covers all of the material common to most Mac OS X books and then it goes further, digging into the workings of the operating system. It delves into the type of topics that can make more advanced users salivate. Mac OS X Unleashed is aimed squarely at users who are not afraid to get under the hood of an OS.

When it comes to the BSD Unix core of Mac OS X, it doesn't skimp. A fair amount of material is devoted to accessing the Unix subsystems. (It can't be a coincidence that both authors have considerable Unix experience; one is a Unix graduate and the other has penned a book on Linux.)

The first 400 pages are devoted to basic material that is, arguably, better covered in other, beginner-level Mac OS X titles. But the fun begins when the authors turn their attention to the BSD Unix core, looking at such things as file operations, shell concepts, and commands, and surveys the command-line applications available. When I first waded through this section I thought "Why not just get a book on BSD Unix?" I later realized that it really does look at things from a Mac perspective. For example, the authors note the nuances of some common Unix commands in the OS, they teach you how to set up a network of Macs, and how to access X-Window applications on a Mac.

In addition to these more advanced topics, it also looks at how to set up an Apache-based Web server, and how to integrate PHP and Perl so you can turn your Mac into a full-fledged Web host.

If you are a hard-core Mac user who wants to get the most out of OS X, this huge tome has what you need. I would have preferred that it drop the beginner-level stuff completely—if only to keep the weight of the book down—but it is there for the beginner with ambition. **C**

Test Lab: A network printer

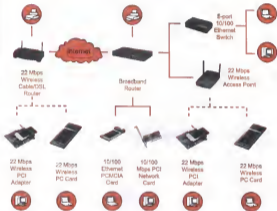
Continued from page 150

DSM seemed to work just fine in an environment with multiple PCs making demands on it. The biggest problem we foresee would be in an environment where multiple users are printing a lot of photos; your ink consumption would be much higher, plus you might have to spend more time waiting around for your print job. Otherwise, everything seems to work smoothly, and the DSM gets our thumbs up.

—Sean Conners

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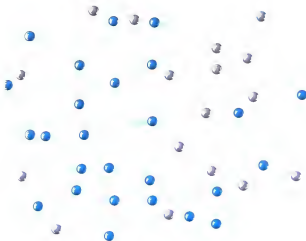


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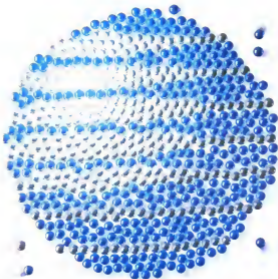
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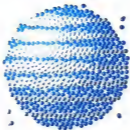
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